Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
700 MHz Mobile Equipment Capability	)	
	)	
Petition for Rulemaking Regarding the Need for 700 MHz Mobile Equipment To Be Capable of Operating on All Paired Commercial 700 MHz Frequency Blocks	)	RM No. 11592

REPLY COMMENTS OF
700 MHz BLOCK A GOOD FAITH PURCHASERS ALLIANCE

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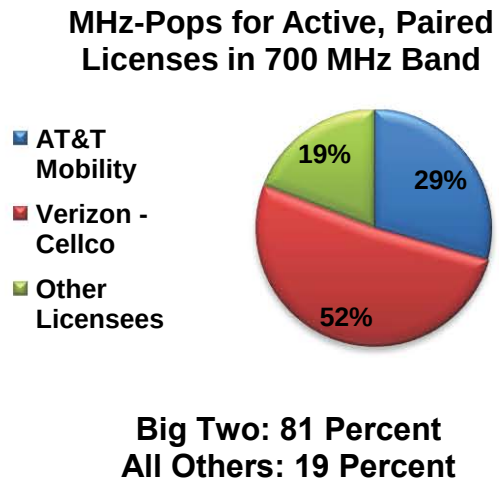
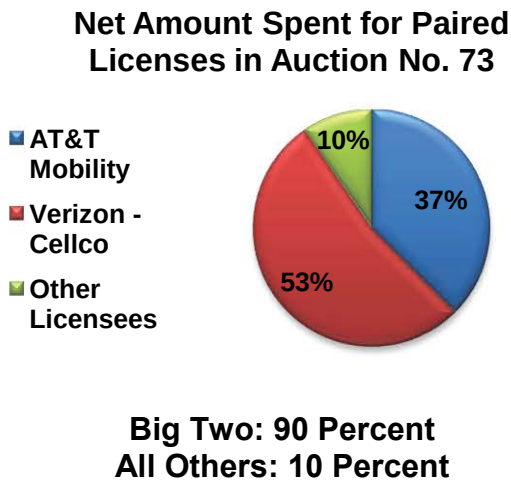
SUMMARY

A drama is playing out in the 700 MHz Band. And if the Commission does not take the stage before the final act is over, the curtain will come down on wireless competition.

Competition in the wireless marketplace is already on shaky ground, and, if AT&T and Verizon—the Big Two—are permitted to proceed with their equipment purchasing strategies, then the 700 MHz Band will likely become a vehicle that speeds the wireless marketplace along the backward path to a duopoly.

As the following chart shows, the Big Two have acquired a dominant position in the 700 MHz Band:





Given the dominance of the Big Two, and the value and importance of 700 MHz spectrum in bringing 4G mobile broadband services to American consumers and to the public safety community, much is at stake in this proceeding. The Commission's objectives in licensing the band include promoting utilization of the spectrum to generate investment in 4G deployment by small rural and regional carriers, so that consumers in rural, unserved areas will have access to

the benefits of advanced mobile broadband services, and to ensure that 700 MHz spectrum is fully utilized in connection with the deployment and operation of public safety broadband systems.

- **The Petition Has Substantial Support from Commenters**

There is overwhelming support for the Alliance's position that the configuration of band classes in the 700 MHz Band, coupled with the mobile device procurement decisions made by the Big Two, are undercutting these Commission objectives. The Alliance demonstrates in its Petition that the band class configurations have enabled AT&T and Verizon to procure mobile devices that will operate only in bands that are virtually the exclusive domains of the Big Two (AT&T's Band Class 17 and Verizon's Band Class 13), and that these purchasing decisions are making it virtually impossible for small rural and regional carriers to obtain affordable mobile devices for use with services these carriers would provide using Lower A Block spectrum.

The vast majority of commenters agree with the Alliance's conclusion that this *status quo* in the 700 MHz Band demonstrates that the dominance of the Big Two has caused the market to fail, and these commenters support the Alliance's request that the Commission prescribe rules that would require mobile devices designed for use in any of the paired, commercial 700 MHz frequency blocks to be capable of working in all other paired, commercial 700 MHz blocks.

A large majority of commenters argue that, unless the Commission grants the Alliance's Petition and provides the relief that the Alliance is seeking, there will be severe negative consequences on a number of fronts. Here is what the record shows:

- *The Commission's 700 MHz Policies*.—Many commenters agree with the Alliance that the Commission's objectives for the 700 MHz Band are in dire jeopardy because the actions of the Big Two—in influencing the 3GPP LTE standards process to establish Band Classes 13 and 17, and in deciding to order equipment that will work only in those bands—are turning the Lower A Block into orphaned spectrum that will not be sufficiently utilized for the deployment of 4G

services. This will severely undercut the Commission's objective that 700 MHz spectrum should be used in a manner that achieves the Commission's pro-competitive and pro-consumer policies.

- *Public Safety*.—Public safety representatives, as well as other commenters, point out that the lack of mobile devices usable across the 700 MHz frequency blocks will hinder the ability of public safety organizations to realize the full potential of 4G mobile broadband because their equipment will be unable to roam within the 700 MHz Band. Because of this and other problems caused by the current band classes and the Big Two's equipment purchasing decisions, the Public Safety Spectrum Trust Corporation encourages the Commission to initiate a rulemaking to consider the deployment of multi-band 700 MHz mobile devices.

- *Orphaned Spectrum in the Lower A Block*.—Numerous parties agree that small rural and regional carriers will find it extremely difficult to build out 4G networks in the Lower A Block, unless the Commission requires the use of all-band mobile devices. The lack of affordable mobile devices for the Lower A Block leads to a chain of circumstances that poses substantial problems for these carriers: Without mobile devices, they obviously cannot provide 4G broadband services to their customers. This inability could result in losing existing customers and failing to attract new customers, and also undermines the carriers' opportunities to obtain investment needed to build out their 700 MHz networks. This lack of investment capital, as well as a shrinking customer base, in turn jeopardize the competitiveness of the small rural and regional carriers.

- *Consumers*.—Although the Commission is seeking to facilitate the deployment of mobile broadband services to consumers in rural and unserved areas, the Big Two have managed to create a situation in which 700 MHz spectrum—which has superior propagation and other attributes making it particularly well suited for broadband deployment in rural areas—may not be used to bring 4G broadband to rural consumers anytime in the near future. While the Big Two

use their 700 MHz holdings to roll out their nationwide 4G services, rural consumers will fall further behind urban consumers in their ability to access advanced mobile broadband services.

■ *Roaming*.—The record reflects wide agreement that the current band classes and the Big Two's equipment procurement strategies will prevent the Big Two's customers from roaming on other 700 MHz frequency blocks, and will prevent customers of other carriers in rural areas from roaming on the Big Two's 700 MHz networks. Consumers, who have reasonably come to expect seamless roaming as a part of their wireless service, will be left in the lurch in the 700 MHz Band, as will public safety users. Even though the Commission has longstanding policies favoring roaming, the Big Two's decisions to use mobile devices that do not operate in other 700 MHz frequency blocks amount to a back-door flouting these Commission policies.

■ *Wireless Competition*.—A principal objective of the Commission in licensing the 700 MHz Band is to preserve and promote the competitiveness of small rural and regional carriers, enabling these carriers to invest in 4G mobile broadband networks, thus bringing advanced mobile broadband to consumers in rural and unserved areas. But many commenters agree that competition is on the ropes in the 700 MHz Band. By using their dominance in the band to control the development and production of mobile devices, the Big Two are hammering the competitiveness of the small rural and regional carriers, making it imperative for the Commission to step in and grant the relief sought by the Alliance.

■ **Opponents of the Petition Miss the Mark**

The Big Two, and their supporters from the equipment industry, attempt to raise various policy, technical, and legal issues in an effort to fend off a grant of the Petition. Their arguments come up short.

■ *Policy Issues*.—The opponents of the Petition argue that granting the Petition would jeopardize the Commission's policies promoting timely deployment of advanced mobile broad-

band services. Apart from the fact that the opponents do not document the duration or scope of any delay, their argument boils down to this: Now that the Big Two essentially own the 700 MHz Band, their business plans should govern the pace and scope of 4G deployment. (Verizon, for example, decries the supposed risks posed by the Petition to the timely roll-out of advanced mobile broadband services, but also informs the Commission that it has no plans for using its own Lower A Band spectrum any time in the near term.)

The Big Two imply that any interference with their business plans is tantamount to undermining Commission policy. The Alliance has a different view: Long-term damage will be done to the Commission's pro-competitive and pro-consumer policies in the 700 MHz Band if the Commission does not act to change the *status quo* created by the 700 MHz band classes and the Big Two's equipment procurement decisions.

- *Technical Issues*.—The opponents argue that the relief sought by the Alliance should be denied because there are a host of technical difficulties that preclude requiring the development and production of all-band mobile devices. The Alliance urges the Commission not to take these technical claims at face value, but instead to initiate a rulemaking to examine their merits and supporting documentation. For example, there is conflicting information in the present record regarding whether Band Class 17 was established because it was the only viable technical solution to Lower A Block interference issues, or because AT&T wanted to procure equipment usable only in its Lower B and C Blocks.

Similarly, Verizon and its supporters present arguments against an all-band equipment requirement that center on their assertions that the differing technical characteristics of upper and lower 700 MHz spectrum make it technically impractical to produce mobile devices that would work in the upper and lower bands and that would also be commercially marketable. But these

opponents of the Petition also make it evident that trade-offs are involved in designing and producing 700 MHz user equipment. The band classes and the Big Two's equipment procurement decisions have promoted trade-offs that favor their business plans.

For example, it may not be feasible (the record is not clear on this point) to design mobile devices that work across 700 MHz frequency bands and also can be used on Verizon's legacy 3G networks and to provide international roaming to Verizon's customers. The trade-off engineered by Verizon is not surprising: It is purchasing mobile devices that work in Band Class 13 (but not other 700 MHz frequency blocks), and that also will accommodate its legacy networks and international roaming.

A Commission rulemaking would not only assess the reasonableness of these kinds of trade-offs from a public policy perspective, but also examine whether technical engineering issues have created imperatives—as the opponents of the Petition claim—that compel and justify the existing band classes and the Big Two's equipment procurement strategies.

■ *Legal Issues*.—Some of the opponents of the Petition argue that the *Cellular Communications Systems Order*, which required cellular carriers to provide their customers with handsets that worked across the entire 40 MHz of cellular spectrum, provides no precedent for the relief sought by the Alliance. The Commission should reject this view, because its cellular compatibility rule was designed to serve the same purposes as the relief sought by the Alliance: the promotion of a competitive market structure for the benefit of consumers. The rule therefore provides ample precedent for the relief sought by the Alliance.

Verizon claims that the Commission lacks any jurisdiction or authority to grant the requested relief. These claims should be rejected for a number of reasons, including the fact that Title II of the Communications Act of 1934 provides ample rulemaking authority to regulate

contractual arrangements between the Big Two and equipment manufacturers. The Commission should exercise this authority to prevent the equipment procurement strategies of the Big Two from impeding wireless competition and harming consumers.

Finally, Verizon asserts that providing the requested relief would violate the Administrative Procedure Act because it would be an arbitrary and capricious action. Verizon argues that the Commission's action would undermine its broadband policies, cut against its own precedent, and attempt to solve a problem that does not exist. Therefore, according to Verizon, the action would be arbitrary and capricious.

The argument fails because all three of its premises are wrong. Granting the Petition would preserve and protect the Commission's policies for utilization of the 700 MHz Band to deploy advanced mobile broadband services; it would follow the longstanding and applicable precedent of the *Cellular Communications Systems Order*; and it would address problems created by the 700 MHz *status quo* that are documented in the Petition and by numerous commenters supporting the Alliance's request for relief.

The Commission now has before it an opportunity to salvage wireless competition in the 700 MHz Band, and the Alliance urges the Commission to do so.

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REPLY COMMENTS OF
700 MHz BLOCK A GOOD FAITH PURCHASERS ALLIANCE

The 700 MHz Block A Good Faith Purchasers Alliance ("Alliance"),[1] by counsel, hereby submits these Reply Comments in response to comments filed by interested parties addressing competitive, technical, legal, economic, and policy issues involved with regard to a request made by the Alliance for the initiation of a rulemaking proceeding by the Commission.[2] The Petition[3]

[1] The Alliance consists of Cellular South Licenses, Inc. ("Cellular South"); Cavalier Wireless, LLC; Continuum 700, LLC; and King Street Wireless, L.P.

[2] *Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking Regarding 700 MHz Band Mobile Equipment Design and Procurement Practices*, Public Notice, RM No. 11592, DA 10-278 (Feb. 18, 2010), 75 FR 9210 (Mar. 1, 2010).

[3] 700 MHz Block A Good Faith Purchasers Alliance, Petition for Rulemaking Regarding the Need for 700 MHz Mobile Equipment To Be Capable of Operating on All Paired Commercial 700 MHz Frequency Blocks, RM No. 11592, filed Sept. 29, 2009 ("Petition"). The Alliance notes that AT&T Mobility LLC ("AT&T") has speculated that the Alliance "may eventually seek to expand its requests to all paired frequency blocks," including frequency blocks outside the 700 MHz Band. AT&T Comments at 1 n.3. AT&T cites a letter recently filed on behalf of Cellular South as the apparent source of its concern. *See id*. (citing Letter from David L. Nace, Counsel for Cellular South, to Marlene H. Dortch, Secretary, FCC, Ex Parte Communication, WT Docket No. 09-66, GN Docket No. 09-157, WT Docket No. 05-265, RM No. 11497, RM No. 11592, GN Docket No. 09-51, & GN Docket No. 09-137, Mar. 9, 2010 ("Nace Letter"), at 2 (arguing that the Commission should "require that mobile devices for the 700 MHz bands be capable of operating on all commercial paired frequency blocks")). The Alliance believes that it is clear from the context of the Nace Letter that the phrase "all commercial paired frequency blocks" refers only

requests the Commission to begin a rulemaking to adopt rules that prohibit restrictive mobile device arrangements, in connection with utilization of 700 MHz spectrum that would, if left unchecked, prevent any competition from emerging in that band. Specifically, the Petition requests the adoption of rules that require 700 MHz equipment designed for operation in a paired commercial frequency block to be capable of operating on all other paired commercial 700 MHz frequency blocks.

I. INTRODUCTION.

At issue in this proceeding is competition in wireless—nothing less. The Commission has before it the option of either controlling the two giants of the industry, or permitting them to dominate 700 MHz. If the Commission exercises the control that the Alliance and many commenters believe it should, consumers (especially those in rural areas), public safety, and small carriers will all benefit. But if the Commission were to abandon its responsibilities and leave matters in the hands of the industry giants, their domination of the band will cause it to become another private fiefdom. Any genuine hope for near-term extensive wireless broadband will vanish.

The record lends overwhelming support for the Alliance's proposition that the 700 MHz mobile equipment band classes, which are a product of the dominating influence wielded by AT&T and Verizon Wireless ("Verizon") (collectively, the "Big Two"), coupled with the restrictive equipment procurement policies being followed by AT&T and Verizon, will unravel the Commission's policies and objectives for the 700 MHz spectrum, unless the agency steps in to salvage the situation.

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to frequency blocks in the 700 MHz Band. Nonetheless, in order to address AT&T's uncertainty, the Alliance wishes to clarify that the phrase in fact is intended to refer only to the scope of relief sought in the Petition.

The vast majority of the commenting parties have joined the Alliance in documenting the legion of public interest harms that will ensue if Commission action is not forthcoming.[4] Opponents of the Petition, in attempting to defend the *status quo* that they have so carefully crafted to benefit only themselves, raise policy, technical, legal, and procedural arguments that share the common thread of being unpersuasive and unavailing. Even so, their overarching arguments are that they should not be made to behave as the Alliance urges—they do not argue that such behavior is impossible.

A. An Overview of What Is at Stake.

The record confirms the Alliance's position that much is at stake in this proceeding. Competition is at the top of the list. It is fair to say that the future course of wireless competition will be played out in the 700 MHz Band. And, right now, competitors of the Big Two are hanging onto the edge of a very unlevel playing field.

Opportunities to preserve and promote competition in other commercial spectrum bands have largely been lost, as the Big Two have worked to consolidate their hold on spectrum and customers. As the Alliance will discuss in these Reply Comments, competition in the 700 MHz Band is also on life-support because market concentration in the band—measured in any number of ways—is even more heavily tilted toward the Big Two than it is in other commercial bands. If the Commission does not act to correct the 700 MHz market failure, then the 700 MHz Band will likely become the last leg of the march back to the days of a wireless duopoly.

Consumer benefits are also at stake. The Alliance agrees with Rural Telecommunications Group, Inc. ("RTG") that 700 MHz spectrum is a "major vehicle through which 4G mobile

[4] By the Alliance's count, 18 sets of comments were filed in this proceeding. Except for the comments of the Big Two, a trade association of the consumer electronics and information technology industries, and two equipment vendors for whom the Big Two are, far and away, their largest customers, all commenting parties support the core requests of the Alliance.

broadband services will be delivered to consumers across the country."[5] It follows, therefore, that the rules and processes by which 700 MHz mobile devices are developed, procured, and made available to consumers will influence significantly the opportunity for consumers to access and utilize mobile broadband. The arrangements governing 700 MHz end user equipment will also affect the efficient use of 700 MHz spectrum, the deployment of 4G infrastructure in rural and unserved areas, and the ability of consumers to access roaming services across the 700 MHz frequency bands.

The Alliance appreciates that, where market forces are permitted to operate in the mobile wireless marketplace, consumers should benefit. It is where competitive market forces are not able to function properly that regulation is necessary to protect consumers. In the 700 MHz Band, however, the marketplace has broken down. Decisions regarding mobile device design and production are catering to the business plans of the Big Two, who comprise a gigantic market for equipment manufacturers.

These decisions, cloaked in representations regarding technical imperatives, are steering the utilization of 700 MHz spectrum in a direction that will not serve consumers, competition, or the Commission's broadband policies.[6] The Commission should act affirmatively to correct this *status quo*, in order to ensure that the public benefits to be derived from the use of 700 MHz spectrum can be realized.[7]

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[5] RTG Comments at 2.

[6] *See, e.g.*, MetroPCS Communications, Inc. ("MetroPCS"), Comments at 2 (noting that "in some circumstances the market becomes so imbalanced that unfair and unreasonable conduct by a very few market participants can completely undermine the beneficial competition that has served American consumers well during the evolution of wireless technology. This proceeding presents just such a situation.").

[7] The Alliance agrees with Commissioner Clyburn that there are times when it is not sufficient for the Commission merely to "encourage" large carriers such as AT&T and Verizon to take actions that will promote the Commission's policies regarding "opportunity for new entrants and smaller wireless service providers to acquire assets and provide competitive alternatives to larger carriers." FCC News Release, *Statement of Commissioner Mignon L. Clyburn on the Wireless Telecommunications Bureau's Consent to*

B. The Record Strongly Supports the Alliance's Petition for Rulemaking.

Numerous parties have responded to the Petition by voicing their concerns regarding the effects that restrictive band classes and mobile device arrangements are likely to have in the 700 MHz Band. Cox Wireless, for example, expresses support for the Alliance's request for Commission action, and concludes properly that "requiring mobile handsets to be capable of operating across all blocks of two-way, paired spectrum in the 700 MHz band will promote competition and consumer convenience."[8]

Parties supporting the Alliance's Petition recognize that the dominance of the Big Two is causing the market to fail with respect to the utilization of 700 MHz spectrum, and that this market failure requires Commission intervention. The record reflects considerable concern that a continuation of the *status quo*—without any remedial action by the Commission—will have disastrous consequences in the 700 MHz Band. Key aspects of the Commission's broadband policies will be jeopardized if restrictive mobile device arrangements are allowed to remain in place. Policies that will be crippled by the current band class configurations and mobile device pro-

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the Transfer of Licenses from Verizon Wireless to Atlantic Tele-Network (rel. Apr. 20, 2010), at 1. The Commission must intervene to ensure that these opportunities are not squandered in the 700 MHz Band.

[8] Cox TMI Wireless LLC d/b/a Cox Wireless ("Cox Wireless") Comments at 1. Numerous parties favor the initiation of a rulemaking, as advocated by the Alliance. *See* Blooston Mordkofsky Dickens Duffy & Prendergast, LLP (on behalf of its rural telephone clients) ("Blooston Rural Carriers") at 1; MetroPCS Comments at 5-6 (indicating its support of the Petition and "urg[ing] the Commission to adopt specific policies prohibiting restrictive equipment configurations (*i.e.*, configurations that do not allow infrastructure and handsets to operate in all of the 700 MHz bands)"); National Fraternal Order of Police ("NFOP") Comments at 2 (unpaginated) (arguing that the Commission should encourage the production of mobile devices that can access multiple 700 MHz band classes); National Telecommunications Cooperative Association ("NTCA") Comments at 1; NTCH, Inc., and David Miller ("NTCH-Miller") Joint Comments at 1-2; Public Safety Spectrum Trust Corporation ("PSST") Comments at 1-2; PVT Networks, Inc. ("PVT"), Comments at 1 (urging the Commission to initiate a rulemaking to address the issues raised by the Alliance); Rural Cellular Association ("RCA") Comments at 3 (arguing that "both from the perspective of rural consumers, and from the perspective of the Commission's broadband policies, the balance weighs heavily in favor of a rulemaking to pursue the relief sought by the Alliance"); RTG Comments at 1-2; Triad 700, LLC ("Triad") Comments at 12; United States Cellular Corporation ("USCC") Comments at 2.

curement plans for the 700 MHz Band include fostering public safety interoperability and easing broadband capacity constraints faced by the public safety community.

In addition, these restrictive equipment arrangements will undermine one of the touchstones of the Commission's spectrum policy—that the marketplace and Commission actions should optimize efficient and effective spectrum use. Consumers generally will be disadvantaged if the Big Two are permitted to go forward with their plans to restrict the bulk production of 700 MHz mobile devices to the frequency blocks in which they hold the overwhelming share of licenses. Many commenters agree that one example of this consumer harm involves the manner in which the restrictive band classes and equipment procurement plans will make it virtually impossible for customers of carriers using 700 MHz spectrum to roam across the entire band. Service will be restricted to the carriers' home service areas.

Finally, there is wide recognition in the record that the *status quo* for the development and production of 700 MHz mobile devices will only serve to strengthen and extend an already formidable competitive advantage held by the Big Two. This is particularly true for the Lower A Block. Numerous commenters point out that, if affordable mobile devices are not available for use in the Lower A Block, then small rural and regional carriers holding A Block licenses will be unable to deploy 4G facilities, they will not be able to provide adequate roaming service to their customers, they will not receive roaming revenues from the Big Two's customers, and they will have extreme difficulty attracting investment capital. If these developments are allowed to persist, they will have a profound impact on the competitiveness of the entire market.

Each of these issues will be discussed in the following sections, in which the Alliance will show that commenters have built a strong case in support of the Alliance's request for a Commission rulemaking.

C. Parties Opposing the Alliance's Petition Fail To Make a Persuasive Case.

Opponents of the Alliance's request for relief urge the Commission to dismiss the Petition because, they contend, a grant of relief would conflict with Commission broadband policies, the Petition raises technical issues that would make the requested relief problematic, and grant of the Petition would be beyond the Commission's authority, would be inconsistent with the agency's precedent, and would be an arbitrary and capricious action in violation of the Administrative Procedure Act ("APA").

Opposing parties focus considerable attention on engineering issues that they assert both justify the current band class configurations and also present problems that would be encountered if the Commission were to adopt the requirements sought by the Alliance. None of the opposing parties provides convincing evidence that the technical complications about which these parties complain prevent a grant of the relief sought by the Alliance. And one of the opposing parties concedes that the technical issues related to Band Class 12 equipment are not insurmountable. In fact, as the record shows and as the Alliance will discuss in these Reply Comments, there is no reasonable basis for claiming that technical engineering issues should shut the door on a rulemaking proceeding.

Opposing parties point to the Commission's interest in facilitating the rapid deployment of advanced broadband services, and argue that a grant of the relief requested by the Alliance would not be consistent with this policy. While the Alliance of course supports the Commission's objective, it understands that the risk of this potential delay (the duration of which is not quantified in any way by the opposing parties) must be assessed in conjunction with the virtual certainty that there will be extensive delays in the roll-out of 700 MHz 4G broadband services across rural America if the Commission does not act to correct the market failure that is now unfolding.

Finally, Verizon asserts that the relief sought by the Alliance would violate Commission precedent and, because there is no reasonable basis for departing from precedent, a grant of the Petition would be arbitrary and capricious. Verizon also claims that, in any event, since the Commission has no jurisdiction over equipment manufacturers, it cannot grant the relief requested by the Alliance. The Alliance demonstrates that nearly three decades ago the Commission took the very same type of action that the Alliance requests, and that the Commission most certainly has authority under the Communications Act of 1934 ("Act") to take the action proposed by the Alliance.

II. THE RECORD DEMONSTRATES THAT RESTRICTIVE ARRANGEMENTS FOR 700 MHz EQUIPMENT WILL THREATEN WIRELESS COMPETITION AND HARM THE PUBLIC INTEREST.

Commission policies have long favored competition, and Congress enacted in the Telecommunications Act of 1996[9] the mandate of injecting competition into local exchange markets.[10] But the record in this proceeding shows that the failure of the market has now placed wireless competition in substantial danger in the 700 MHz Band.

Before turning to a discussion of this market failure and the threat it is posing to wireless competition, the Alliance will first examine in the following sections other public interest harms that would result if the restrictive arrangements for 700 MHz mobile devices that currently are in place are permitted to remain in place. Commenters supporting the Petition have shown convincingly that these restrictive arrangements will frustrate the Commission's 700 MHz policy goals, will deprive the public safety community of full utilization of 700 MHz spectrum, will significantly interfere with the ability of small rural and regional carriers to utilize their 700 MHz spec-

[9] Pub. L. No. 104-104, 110 Stat. 56 (1996).

[10] *Alenco Communications v. FCC*, 201 F.3d 608, 614 (5th Cir. 2000).

trum, will harm consumers by impairing the deployment of 4G broadband in rural and small regional markets, and will prevent roaming across 700 MHz frequency blocks.

A. The Commission's 700 MHz Policy Goals Will Be Severely Undermined If It Does Not Grant the Relief Sought by the Alliance.

As RTG observes, an important goal of the Commission's agenda for mobile broadband is "[r]emoving obstacles to robust and ubiquitous 4G deployment."[11] While some of the opponents of the Petition claim that granting the Alliance's request for relief will create such an obstacle,[12] that view unsuccessfully clouds the fact that much more imminent risks will materialize if the Commission were not to initiate a rulemaking.

One such risk involves a threat to a key component of the Commission's mobile broadband policies, as reflected in the agency's decisions regarding use of 700 MHz spectrum. RCA has pointed out that the Commission has explained, in its proceeding for licensing the 700 MHz Band, that its rules seek to take advantage of the exceptional propagation characteristics of 700 MHz spectrum by promoting the deployment of innovative services in rural areas, and that the rules also intend to create investment opportunities for small and regional service providers and to minimize the likelihood of anticompetitive behavior by large carriers in the 700 MHz Band.[13]

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[11] RTG Comments at 3 (quoting Chairman Julius Genachowski, FCC, Prepared Remarks, "America's Mobile Broadband Future," International CTIA Wireless I.T. & Entertainment, Oct. 7, 2009, at 4) (internal quotation remarks omitted).

[12] The opponents' arguments are discussed in Section III.A.3., *infra*.

[13] *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones; Biennial Regulatory Review—Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services; Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; and Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, WT Docket Nos. 06-150, 01-309, 03-264, 06-169, 96-86, 07-166, CC Docket No. 94-102, PS Docket No. 06-229, *Second Report and Order*, 22 FCC Rcd 15289, 15325 (para. 85), 15348 (para. 154), 15384 (para. 256) (2007) ("*700 MHz Second Report and Order*") (cited in RCA Comments at 6-7); *see* Omnibus

As the Alliance will discuss in greater detail in the following sections, all of these policies and goals articulated in the *700 MHz Second Report and Order* are now in serious jeopardy because of the combination of band class configurations in the 700 MHz Band and the mobile device procurement plans being pursued by the Big Two. In short, the band class structure has walled off the Lower A Block, making it virtually impossible for small rural and regional carriers to obtain affordable mobile devices utilizing 4G broadband services for their customers. This problem is made worse by the fact that the Big Two are planning to purchase mobile devices that will work only in their own frequency blocks (the Lower B and C Blocks for AT&T, and the Upper C Block for Verizon).

The combination of these developments in the 700 MHz Band—narrowly drawn band classes and restrictive equipment procurement plans—is posing a substantial risk to the Commission's broadband policies because, without access to affordable mobile devices for their customers, small rural and regional carriers will be seriously impaired in their efforts to deploy 4G broadband services in unserved and underserved areas covered by their Lower A Block licenses.

A second Commission broadband policy at risk because of these marketplace developments in the 700 MHz Band involves public safety.[14] One of the Commission's broadband goals is to ensure that public safety organizations are able to roam on commercial networks in the 700 MHz Band. As the Alliance explains in the next section, this goal will be severely undercut if no 700 MHz mobile devices with this roaming capability are produced, which is exactly the situation that is now unfolding.

Broadband Initiative, FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (Mar. 16, 2010) ("Broadband Plan" or "Plan") at 78, 83 (cited in RCA Comments at 5) (recommending that the Commission should promote opportunities for new entrants and small businesses, to facilitate deployment of advanced broadband services in underserved areas, and to avoid the underutilization of spectrum, especially in rural areas).

[14] *See* Broadband Plan at 316 (cited in MetroPSC Comments at 17); *see also* PSST Comments at 5.

B. Public Safety Concerns Regarding Insufficient Capacity and 700 MHz Roaming Will Be Made Worse If the Alliance's Petition Is Not Granted.

All Americans have a stake in the achievement of the Commission's goal that the public safety community should be able to utilize 4G broadband services to the fullest extent practicable. The problem is that, if 700 MHz mobile devices are not compatible across the entire 700 MHz Band, then public safety will be placed in an inferior status in the band.[15] Public safety concerns regarding roaming and adequate spectrum capacity will not be resolved unless mobile devices are produced that access both Band 14 (the upper band public safety allocation) *and* other 700 MHz band classes.

Several commenters point to the importance of utilizing 700 MHz spectrum to advance the Commission's broadband goals for public safety. The Public Safety Spectrum Trust Corporation ("PSST") urges the Commission to consider the development and deployment of 700 MHz multi-band equipment because this would facilitate nationwide roaming by public safety entities, and would reduce capacity constraints.[16] PSST also explains that "[m]ulti-band devices could . . . provide cost-savings for public safety by reducing further the need to obtain multiple sets of de-

[15] *See* MetroPSC Comments at 17 (footnote omitted)

> [I]t is critical for 700 MHz equipment to develop in a manner that renders it compatible across the entire 700 MHz band. Otherwise, the Commission will have relegated public safety to the same second-class service status that will be suffered by subscribers to non-C Block and non-B Block 700 MHz services in the absence of a compatibility requirement.

[16] PSST Comments at 1-2, 7; *see id*. at 8 (noting that "[m]ulti-band devices could help reduce the anticipated capacity constraints on public safety broadband services by facilitating partnerships between public safety entities and licensees in multiple 700 MHz bands"); Cellular South Comments at 7 (suggesting that "public safety personnel should be able to make use of devices that have full 'across the bands' capability"); NFOP Comments at 2, 8-9 (unpaginated); NTCH-Miller Comments at 3; RCA Comments at 21-22.

vices and other equipment (*e.g.*, one for each band) and the need to carry more than one device across jurisdictions during emergencies."[17]

These objectives likely will not be realized unless the Commission grants the Alliance's Petition. MetroPSC sums up the problem succinctly by explaining that, "[i]f the equipment manufacturers are focused solely on developing band-specific equipment for Verizon and AT&T's spectrum holdings, public safety will not receive interoperable handsets which can roam on all 700 MHz spectrum for some time—if ever—and the costs for the equipment will be substantially higher for public safety."[18]

MetroPCS concludes that "[t]his is the exact opposite [of the] direction the Commission is and should be headed with its interoperable national public safety system."[19] PSST echoes this analysis, concluding that "if devices that can access Band 14 cannot access any other band, public safety entities could effectively be restricted to partnering with the D Block licensee(s) because they would otherwise have to purchase two sets of equipment."[20]

The Big Two have a track record of focusing their operations in the most densely populated, and profitable, areas and ignoring or delaying service to more rural areas. Block A licensees are far more likely to serve those areas in the near term. If Block A licensees cannot obtain multi-band equipment in the near term, at reasonable prices, it will be very difficult, perhaps impossible, for them to provide quality service there. The result will be greatly diminished roaming opportunities for public safety in rural and other sparsely populated areas.

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[17] PSST Comments at 8-9; *see* USCC Comments at 15 (arguing that the best way to extend to public safety the maximum possible volume production savings would be for the Commission to require that all commercial providers in the 700 MHz Band must develop "full spectrum" devices).

[18] MetroPCS Comments at 14.

[19] *Id.*

[20] PSST Comments at 8; *see* Blooston Rural Carriers Comments at 2, 7-8; Cox Wireless Comments at 5; PVT Comments at 8.

The record presents a convincing case that the plans of the Big Two for their utilization of 700 MHz spectrum, if unchecked by the Commission, will impose serious collateral damage on public safety operations. As the Alliance illustrates in this section, PSST, which is in a position to speak authoritatively on this issue, underscores the basis for these concerns in its comments.

C. Small Rural and Regional Lower A Block Licensees Will Not Be Able To Use Their Licensed Spectrum Effectively To Serve Their Customers Unless the Alliance's Petition Is Granted.

A cornerstone of the Commission's spectrum policies is the promotion of efficient and effective use of spectrum to benefit consumers.[21] The Commission's objective of facilitating effective use of spectrum is particularly important in the 700 MHz Band because the superior propagation characteristics of this spectrum are well suited for deploying 4G services in remote rural areas.[22] Unfortunately, the record demonstrates that the 700 MHz Band *status quo*, which opponents of the Petition seek to protect, threatens to turn the Lower A Block into orphaned spectrum. That would be the antithesis of the goal of achieving effective spectrum use.

The problem boils down to this: If affordable mobile devices are not available for use in the Lower A Block, then this "spectrum may lay fallow for a long period of time."[23] Triad explains that, "[i]nstead of merely not being able to obtain the latest or most feature-filled handsets, with the proposed 700 MHz handset restrictions, smaller carriers may not be able to obtain hand-

[21] *See, e.g.*, *700 MHz Second Report and Order*, 22 FCC Rcd at 15348 (para. 154) (explaining that the "stringent performance requirements" adopted for the 700 MHz commercial licenses are intended to ensure that licensees will "put this spectrum to use throughout the course of their license terms and serve the majority of users in their license areas").

[22] *See* MetroPCS Comments at 8; NTCA Comments at 4.

[23] Triad Comments at 3.

sets that work over their licenses *at all*."[24] This, of course, would make it impossible for these carriers to offer services over their Lower A Block spectrum.

A related problem faced by small rural and regional carriers with Lower A Block licenses is that, if they are blocked from having access to affordable mobile devices for their customers, they may find it exceptionally difficult to meet the stringent build-out requirements for the Lower A Block.[25] As MetroPCS explains, these requirements put Lower A Block licensees in a potentially untenable position:[26]

> 700 MHz Block A licensees need *both* end user devices *and* infrastructure equipment to build a business. Absent clear evidence that both will be available on a timely basis at a reasonable cost, carriers will not be confident that they can meet the Commission's build-out requirements. This leaves the carrier with a Hobbesian choice: either build-out the networks (assuming they can get infrastructure equipment) at substantial cost and hope an end-user device solution develops (and thereby run the risk of having to give the spectrum back or lose the entire investment if it does not), or sell their license for pennies on the dollar to one of the dominant carriers.

Meanwhile, Verizon, while professing to be concerned about delays in the roll-out of 4G services that could be caused by a grant of the Petition,[27] has also announced its plans to warehouse inde-

[24] *Id*. at 5 (emphasis in original). *See* PVT Comments at 2, 6-7; Nace Letter at 2 (arguing that "Lower Block A must not become an orphaned block of spectrum as the result of the equipment design and procurement practices of the largest wireless carriers").

[25] Lower A Block licensees are required to provide signal coverage and offer service to at least 35 percent of the geographic area of their licenses within four years following the end of the digital television transition, and to at least 70 percent of the geographic area of their licenses at the end of the license term. If a licensee fails to meet the interim build-out requirement, then its license term will be reduced by two years, from 10 years to eight years. If a licensee does not meet the end-of-term performance requirements, the unused portion of the license terminates automatically. *700 MHz Second Report and Order*, 22 FCC Rcd at 15349 (para. 157).

[26] MetroPCS Comments at 18-19 (emphasis in original); *see* Blooston Rural Carriers Comments at 6-7; RCA Comments at 9 (discussing the impact of restrictive arrangements for 700 MHz mobile devices on the valuation of Lower A Block spectrum).

[27] *See* Verizon Comments at ii-iii.

finitely its spectrum holdings in the Lower A Block.[28] In addition to the anti-competitive effects of this strategy, which the Alliance discusses in a later section,[29] Verizon's plans do not seem to be driven by an intention to expedite the provision of 4G broadband service to its customers through the use of its Lower A Block spectrum.[30]

D. Consumers Will Be Harmed If Affordable Mobile Devices Are Not Available for Use Throughout the 700 MHz Band.

Consumers residing in rural areas, as well as consumers generally, will be harmed if the Commission does not grant the Alliance's Petition and act to ensure that 700 MHz mobile devices will operate across all paired commercial frequency blocks in the 700 MHz Band.

1. The Delivery of 4G Broadband Services to Consumers in Rural and Small Regional Markets Will Be Critically Impaired Unless the Commission Acts To Change the Status Quo.

Several commenters, in supporting the Alliance's Petition, agree that there is a very real risk that consumers in rural areas and smaller regional markets will not have any access to 4G broadband services in the near future—or may not receive such access at all—if the current framework for the development and production of 700 MHz mobile devices is allowed to remain in place.[31]

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[28] Letter from John T. Scott, III, Donald C. Brittingham & William D. Wallace, Verizon, to Marlene H. Dortch, Secretary, FCC, Ex Parte Communication, WT Docket No. 09-66, GN Docket No. 09-157, Dec. 18, 2009, at 7 (admitting "that Verizon Wireless does not plan to deploy its Lower A Block spectrum in the near term").

[29] See Section II.F.2., *infra*.

[30] RCA also points out that "[w]hen Verizon Wireless does turn its attention to utilization of Lower A Block spectrum, it may not focus on unserved and underserved rural areas." RCA Comments at 15 n.29.

[31] The Alliance explained in its Petition that "[c]onsumers living in rural areas are among the hardest hit by the artificial limitations on product availability . . . being imposed by the nation's largest carriers" and that "ironically, those living in rural areas where the benefits of 700 MHz service are most eagerly awaited (due to the superior propagation for distance and penetration) are the ones least likely to have access to that spectrum." Petition at 4.

A principal reason for this is that the unavailability of affordable mobile devices for customers of Lower A Block licensees is threatening to interfere with the ability of small rural and regional carriers to invest in the deployment of 4G broadband infrastructure. As RCA explains, "[t]his cloud over the business plans of small rural and regional licensees for the use of Lower A Block spectrum threatens to deprive rural consumers of access to affordable mobile broadband services."[32]

RTG argues that consumers in rural areas will be surprised to find themselves short-changed as the Big Two roll out 4G services, pointing out that "[t]he success of celebrating tens of thousands of LTE ["Long-Term Evolution"] radio-access network antennas and base-stations coast-to-coast will be short-lived when consumers realize that national 4G/LTE coverage is illusory."[33] RTG is concerned that "[s]ome consumers will be shocked to see that their mobile operators of choice are unable to commercially launch LTE service . . . because they are unable to acquire LTE-capable devices from vendors."[34]

Moreover, the Blooston Rural Carriers suggest a scenario in which wireless service in some rural areas could disappear altogether:[35]

> If smaller rural carriers are forced out of business by the loss of customers in the few populated portions of their service areas (a growing possibility in today's fragile economy), many of the most remote areas will lose access to any type of wireless service. The larger carriers generally have not built out coverage to many small communities and truly rural stretches that are removed from the highway. The resulting net loss of service to rural America would be contrary to public interest and the policies embodied in the Communications Act.

[32] RCA Comments at 10; *see* Blooston Rural Carriers Comments at 4; MetroPCS Comments at 14.

[33] RTG Comments at 3.

[34] *Id*.

[35] Blooston Rural Carriers Comments at 5-6.

In short, the digital divide between rural and urban consumers will likely be made much more severe unless the Commission takes action to ensure that the 700 MHz band class plan and the equipment procurement practices of the Big Two do not interfere with the deployment of 4G services in rural and smaller regional markets.[36] Consumers in all regions of the country, as well as consumers at all income levels,[37] deserve access to 4G broadband services—this proposition, of course, is an underlying premise of the Broadband Plan, as Chairman Genachowski has explained.[38] The Commission should take account of the strong showing in the record that, if the broken arrangements for developing and producing mobile devices for the 700 MHz Band are not fixed, then many consumers will find this access delayed or denied, and many consumers who are able to subscribe to 4G services using 700 MHz spectrum will find themselves paying a premium for it.[39]

2. Verizon's Plans for the Upper C Block Would Likely Harm Consumers by Undercutting the Commission's "Open Platform" Policies.

The purpose of the Commission's "open platform" requirements for the Upper C Block is to expand consumer choices for 700 MHz services and mobile devices.[40] The Commission sought to accomplish this by removing some of the barriers faced by developers and device

[36] *See* MetroPCS Comments at 14-15; Triad Comments at 12. The Alliance notes that consumers also will be harmed by the impact that the current restrictive band class and mobile device arrangements will have on roaming capabilities in the 700 MHz Band. This issue is discussed in Section II.E., *infra*.

[37] *See* Triad Comments at 12.

[38] *See* Chairman Julius Genachowski, FCC, Prepared Remarks, March 2010 Open Agenda Meeting, "A National Broadband Plan for Our Future," Mar. 16, 2010, at 3 (cited in MetroPCS Comments at 15 n.35).

[39] The Alliance agrees with Cox Wireless that "[a]doption of the rules suggested by the Alliance will also potentially drive down handset costs because manufacturers will be able to produce equipment for the widest possible marketplace." Cox Wireless Comments at 3. Cox Wireless concludes that "[t]his will produce a virtuous cycle in which consumers enjoy lower-priced handsets (and base station transmitters that operate across those handsets), which will help promote a quicker construction of the 700 MHz band." *Id*.

[40] *700 MHz Second Report and Order*, 22 FCC Rcd at 15361 (para. 195).

manufacturers.[41] USCC explains that Verizon's decision to procure mobile devices that will work only in Band Class 13 (the Upper C Block) will largely counteract the Commission's open platform policy.

The Alliance shares the concerns raised by USCC regarding Verizon's equipment procurement plans. USCC explains that, given that the Upper C Block is in its own band class, it is unlikely that a mobile device manufacturer will seek to develop innovative products for use in the Upper C Block without first obtaining a marketing or distribution agreement from Verizon. The reason for this is that, if a mobile device manufacturer produces a Band Class 13 specific device, but is unsuccessful in marketing that device to Verizon customers, the manufacturer will not have any other market for the unsold devices.[42] Thus, Verizon's procurement of equipment that will work only in the Upper C Block is likely to suppress any efforts by mobile device manufacturers to take advantage of the Commission's open platform policy and develop equipment independently from Verizon.

Verizon has taken a different, but not well-supported, view. It claims that granting the Petition actually would hinder the Commission's open platform goals for the Upper C Block. Verizon proffers that it would be prohibitively expensive (and technically complex) for third-party developers to produce mobile devices that would work on all 700 MHz frequency blocks, instead of only on the Upper C Block.[43] USCC's argument is far more persuasive. The costs to third-party developers of producing all-spectrum mobile devices would be more than offset by the fact that the mobile devices would be marketable to all carriers using 700 MHz spectrum, not

[41] *Id*. *See* USCC Comments at 11 (pointing out that the Commission sought "to give device manufacturers incentives to develop new and innovative devices designed to operate on VZW's Band Class 13 network without the active consent and cooperation of VZW").

[42] *Id*. at 11-12.

[43] *See* Verizon Comments at 15-16.

just to Verizon's Upper C Block customers. The resulting greater economies of scale would likely offset some or all of any cost increases that otherwise may exist.

E. Roaming Across 700 MHz Frequency Blocks Will Not Be Possible Unless the Commission Acts To Change the Status Quo.

Roaming has long been an important component of mobile service. The Commission's objective is "to increase consumers' access to seamless nationwide mobile services, wherever and whenever they choose, and to promote investment, innovation, and competition in mobile wireless services."[44]

Chairman Genachowski has underscored the fact that the Commission's goal is to lead the world in mobile and that, to promote this goal, the Commission "must ensure that American consumers have access to competitive broadband data communications services whenever they want and wherever they are . . . ."[45] The future of roaming in the 700 MHz Band, however, has been imperiled by restrictive arrangements for the development and production of mobile devices. If this situation is not corrected, consumers will be harmed.[46] Opponents of the Petition fail in efforts to explain away these concerns.

1. The Current 700 MHz Band Classes and Equipment Procurement Arrangements Will Significantly Restrict Roaming Capabilities Available to All Consumers.

The Alliance agrees with NTCH-Miller that:[47]

> [u]niversal, ubiquitous roaming has been a hallmark of mobile service in the United States since the cellular rules were first adopted. That regulatory regime

[44] *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, Order on Reconsideration and Second Further Notice of Proposed Rulemaking, FCC 10-59 (rel. Apr. 21, 2010) at para. 1.

[45] *Id*., Statement of Chairman Julius Genachowski..

[46] The Alliance notes that competition also will be harmed by the impact that the current restrictive mobile device arrangements will have on roaming capabilities in the 700 MHz Band. This issue is discussed in Section II.F.2., *infra*.

[47] NTCH-Miller Comments at 2-3.

> has worked extremely well to permit independent operators to thrive and flourish despite the alarming consolidation of the largest carriers.

Consumers of mobile services have come to rely on and expect a "seamless experience" that is made possible by roaming arrangements.[48] This seamless experience has been made possible by Commission rules and policies that have created a "symbiotic relationship" regarding the build-out efforts of wireless carriers serving urban and rural areas, and that give "the customer the ability to use urban and rural systems as needs dictate."[49]

This is all coming unglued in the 700 MHz Band. Key ingredients for roaming "are handsets that can tune to the widest range of mobile carrier operating spectrum blocks, so that any provider using the same air-interface technology has the widest range of potential roaming partners from which to choose."[50] This critical component has been removed in the 700 MHz Band because affordable equipment with these capabilities is not going to be produced anytime soon, if at all.[51]

The fact is that, unless the Commission grants the Alliance's Petition and acts to change the *status quo*, it is unlikely that there will be any roaming in the 700 MHz Band. The Big Two, whose staunch opposition to roaming has grown in step with their market power,[52] have orchestrated arrangements in the 700 MHz Band that "are nothing less than a backdoor method of proscribing roaming on other people's networks by making roaming technically impossible."[53]

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[48] NTCA Comments at 3.

[49] *Id.* at 3-4.

[50] Cox Wireless Comments at 3.

[51] *See, e.g.*, RTG Comments at 2.

[52] *See* Triad Comments at 6.

[53] NTCH-Miller Comments at 3; *see* Triad Comments at 6.

None of this is good for consumers. NTCA convincingly describes the consequences of the *status quo*:[54]

> Without 700 MHz roaming, customers of the large carriers will be unable to utilize the block A systems of the small and regional carriers. Customers of small carriers would be limited without an option for a nationwide service, perpetually unable to roam on the networks of the large carriers. Without roaming, consumers will have a useful device only if and when they are physically situated in an area in which their home provider has constructed towers. The actions of the large carriers will limit the experience for all consumers.

Consumers' access to roaming capabilities in the 700 MHz Band is critically important. As the Commission explained in the Broadband Plan, "[d]ata roaming . . . would enable customers to obtain access to e-mail, the Internet and other mobile broadband services outside the geographic regions served by their providers. For example, small rural providers serve customers that may be more likely to roam in areas outside their providers' network footprints."[55] Allowing the band class and equipment procurement arrangements that now hold sway over the 700 MHz Band to remain in place is not in the public interest because it would foreclose roaming capabilities that provide benefits to consumers.

2. AT&T Fails To Support Its Claim That Concerns Regarding 700 MHz Roaming Are "Illogical."

In attempting to brush aside the Alliance's concerns regarding the threats posed to roaming in the 700 MHz Band, AT&T characterizes these concerns as "illogical"[56] and offers three arguments in support of its view.

First, AT&T maintains that Lower A Block licensees are not prevented from negotiating roaming deals with carriers offering services on other 700 MHz blocks. AT&T also suggests that

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[54] NTCA Comments at 4; *see* Blooston Rural Carriers Comments at 4; Cellular South Comments at 5; MetroPCS Comments at 11; RCA Comments at 9-10; Triad Comments at 6; USCC Comments at 8-9.

[55] Broadband Plan at 49 (quoted in RCA Comments at 10).

[56] AT&T Comments at 12.

a decision by other 700 MHz licensees not to roam on Lower A Block networks would not preclude Lower A Block licensees from roaming on other networks (including other 700 MHz networks).[57] This argument misses the point. A prerequisite for the negotiation of roaming agreements is the availability of mobile devices "that can tune to the widest range of mobile carrier operating spectrum blocks . . . ."[58] Unless the *status quo* is changed, there is no logical reason to expect that such mobile devices will be available on a widespread, affordable basis in the 700 MHz Band. Without such devices, there is nothing to negotiate.

Second, AT&T asserts that "A block licensees are free to negotiate with handset manufacturers to design, manufacture and deploy wireless handsets and other devices that operate within the spectrum bands that are needed based upon their spectrum holdings and business plans, including Band Class 12 or other commercial spectrum."[59] This, of course, goes to the heart of the problem raised by the Alliance in its Petition. Small rural and regional carriers are *not* in a position to place bulk orders for mobile devices that work in the Lower A Block and also work in other 700 MHz frequency blocks. The band class plan, which conveniently enables AT&T and Verizon to develop mobile devices that work exclusively on their bands, is the source of this problem. Without such devices (as AT&T seems to tacitly admit in its second argument, while choosing to ignore the point in its first argument), there will be no roaming in the 700 MHz Band.

Finally, in attacking the suggestion that the Commission should act to enable roaming in the 700 MHz Band, AT&T argues that, to the contrary, "[c]arriers should remain free, in a competitive market, to choose their roaming partners based on factors like network compatibility,

[57] *Id*. at 12-13.

[58] Cox Wireless Comments at 3.

[59] AT&T Comments at 13 (footnote omitted).

price, coverage, and call quality."[60] Leaving aside for the moment AT&T's reference to a competitive market,[61] AT&T's point seems to be a reprise of its argument that Lower A Block licensees are free to negotiate roaming arrangements with other carriers. The merits of this argument are not improved by restating it: The fact remains that there is no basis for negotiation if there are no mobile devices that work across 700 MHz frequency blocks.

AT&T's argument suffers from two additional shortcomings. It ignores established Commission precedent and policy that does not permit carriers to pick and choose their roaming partners. It also overlooks the fact that, unless customers of carriers can roam over the networks of the industry giants, they will not likely be able to roam in all places they desire.

F. There Will Be No Wireless Competition in the 700 MHz Band If the Big Two Carriers Are Permitted To Control the Development and Production of 700 MHz Mobile Devices.

In the following sections the Alliance discusses the growing market dominance of AT&T and Verizon and the general consequences and implications of this market power. The Alliance also explains how the record demonstrates that the problems in the 700 MHz Band caused by restrictive band class and mobile device arrangements will have a negative effect on wireless competition.

1. The Big Two Have Amassed Substantial Holdings in the 700 MHz Band.

Several commenters point to the market power of the Big Two and describe the general consequences that flow from this power.[62] USCC, for example, demonstrates that the growing

[60] *Id.* at 13 n.20.

[61] The Alliance discusses competitive issues in Section II.F., *infra*.

[62] While the market power of the Big Two is more extreme in 700 MHz than in other spectrum bands, the situation elsewhere is also alarming. Those two carriers reportedly have 67 percent of all wireless subscribers. And things are getting worse: They get approximately 79 percent of all new customer adds. *See* Nace Letter, Attachment at 5 (unpaginated) ("2009 Total Net Adds"). The competitive problems in these

market power of the Big Two (and other large carriers) is reflected by the fact that "many of the competitors of the largest carriers have disappeared from the marketplace . . . ."[63] The Alliance agrees with USCC's argument that this "domination of the wireless market" is reflected in part by "the disparities in spectrum holdings between these carriers and others."[64]

USCC provides statistics showing the "acquisitions by AT&T and VZW of massive 700 MHz commercial paired spectrum holdings."[65] The following charts[66] illustrate the domination of the Big Two over 700 MHz spectrum, as well as the disproportionate expenditures they made to acquire spectrum licenses in Auction No. 73.[67] Together, they hold 81 percent of all licensed 700 MHz paired MHz-pops. And in Auction No. 73, they made fully 90 percent of all payments for paired spectrum. In addition, Attachment A provides information reflecting the sizable extent of the holdings of AT&T and Verizon in the largest 700 MHz markets.

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other bands contribute to the more dire situation in 700 MHz, by virtue of the extreme influence the Big Two hold over equipment vendors.

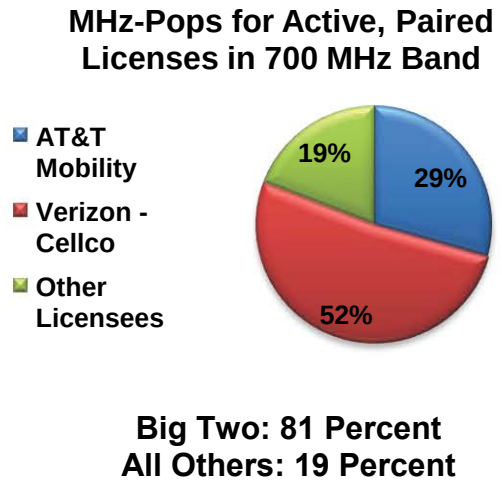
[63] USCC Comments at 3.

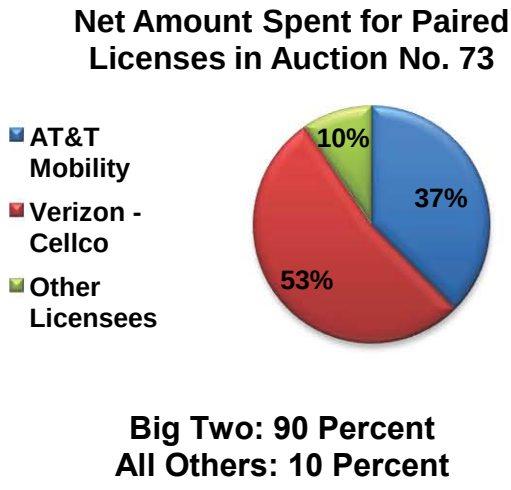
[64] *Id*. at 4.

[65] *Id*.

[66] Information reflected in the charts is drawn from data posted on the Commission's website relating to Auction No. 73 and licenses held in the 700 MHz Band.

[67] These charts provide data relating to paired, commercial licenses in the 700 MHz Band, because the Alliance's Petition seeks relief relating to paired, commercial spectrum. The extent of the Big Two's holdings and expenditures are also exceptionally large when all 700 MHz licenses are considered: Verizon-Cellco holds 43 percent of the MHz-pops, while AT&T Mobility holds 25 percent, and all other licensees hold 32 percent; Verizon-Cellco spent 49 percent of the total net expenditures for licenses in Auction No. 73, while AT&T Mobility spent 35 percent, and all other licensees spent 16 percent.





The tables in Attachment A illustrate that AT&T and Verizon hold dominant positions in the top 700 MHz markets across the country: (1) In the Lower A Block, Verizon holds 16 of the top 20 markets, and all of the top five markets. (2) In the Lower B Block, AT&T holds licenses for 87 of the top 100 markets, while Verizon holds 12 of the remaining 13 licenses in the top 100 markets—so that, together, the Big Two hold licenses in 99 percent of these markets. (3) In the Lower C Block, AT&T has licenses for 93 of the top 100 markets. (4) In the Upper C Block, Verizon holds licenses for the entire continental United States and Hawaii.

Given the above, no reasonable person would attempt to dispute that AT&T and Verizon are the kingpins of the 700 MHz Band. To put the domination of the Big Two in some perspective, a comparison with the financial community, which is currently the subject of considerable regulatory reform efforts, due in considerable part to its high concentration, is useful. The ten largest banks in the U.S. hold a combined market share of approximately 60 percent (based on

share of industry assets).[68] In health care, another industry generally understood to be in need of regulation, the concentration that is viewed as being problematic is considerably less than in the wireless marketplace. A recent report concluded that dominance was problematic where a single health insurance carrier held at least a 30 percent market share in a majority of markets.[69]

In light of the Big Two's grip on the 700 MHz Band, and the implications that this domination has for wireless competition and mobile broadband policies, the Alliance submits that the wattage of the Commission's scrutiny directed toward the operations of the Big Two should match the intensity of the regulatory spotlight currently being focused on the country's largest financial and health insurance institutions.

Specifically, it is difficult to make a credible argument that the band classes, and the development and production of equipment, for the 700 MHz Band have not been tailored to accommodate the plans of AT&T and Verizon for their use of the spectrum. The hegemony exercised by the Big Two in the 700 MHz Band is producing a market failure. As RCA explains, "the market is not functioning in a manner that is producing results consistent with, and in advancement of, the Commission's policies for using 700 MHz spectrum to bring mobile broadband to rural consumers."[70] The Alliance agrees with RCA's assessment of the causes of this failure:[71]

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[68] Editorial, "The Weak Spot in the Financial Reform Bill," CHRISTIAN SCIENCE MONITOR, Apr. 27, 2010, accessed at http://www.csmonitor.com/Commentary/the-monitors-view/2010/0427/The-weak-spot-in-the-financial-reform-bill.

[69] *See* Emily Berry, "Health Plans Extend Their Market Dominance," AMERICAN MEDICAL NEWS, Mar. 8, 2010, accessed at http://www.ama-assn.org/amednews/2010/03/08/bil20308.htm.

[70] RCA Comments at 7. AT&T advances the claim that "[t]he Alliance . . . argues, without evidence, that it [*sic*] AT&T's and Verizon's actions are anticompetitive and that it cannot effectively compete against AT&T and Verizon. Cellular South's 2009 growth rate in net activations (10.26%) compared to that of AT&T (9.35%) and Verizon (7.01%) belies that statement." This argument is unpersuasive. The growth in Cellular South's net activations has no relevance to the issue of whether AT&T or Verizon is engaging in anticompetitive conduct. Moreover, there is no basis for AT&T's apparent proposition that one carrier's success in attracting customers is a dispositive bellwether from which conclusions regarding the state of wireless competition can be drawn. The factors enumerated by RCA (discussed in the text of these Reply Comments accompanying footnote 71) provide a more accurate picture of the state of the wireless

> The sheer size of AT&T and Verizon Wireless—their customer base, their revenues, their share of the wireless market, the substantial scope of their integrated operations—is having the effect of skewing the manner in which Band Classes have been established for the 700 MHz spectrum and has affected the current production plans for mobile devices usable in the 700 MHz band.

The potential competitive consequences of this market failure are unsettling, to be charitable. The Alliance agrees with NTCA's view that "the two largest 700 MHz spectrum holders have the ability and incentive to shut smaller providers, who hold spectrum primarily in rural areas, out of the market."[72] As Triad explains, the Commission's hopes for utilizing the "beachfront" spectrum of the 700 MHz Band[73] are being washed away because of the threat that "the two major carriers [will be] able to dictate the types of equipment that will be available for 700 MHz spectrum."[74]

2. The Problems Caused by Restrictive Mobile Device Arrangements in the 700 MHz Band Will Prevent Competition from Ever Developing in the Band.

As a general matter, the unavailability of mobile devices that will work across paired commercial frequency blocks in the 700 MHz Band threatens to have a cascading effect on the ability of small rural and regional carriers to compete against the Big Two. As RCA explains, if affordable mobile devices are not available for customers of Lower A Block licensees, "this will affect the ability of small rural and regional carriers to compete, because they will lose revenues,

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market. The holdings of AT&T and Verizon in the 700 MHz Band—and the equipment purchasing power resulting from these holdings—are also a relevant factor in making a more probative assessment of the robustness of competition among carriers utilizing 700 MHz spectrum. Another illuminating fact is that, in 2009, AT&T had a total of approximately 4,323,000 postpaid net customer additions, while the total for Verizon (including Alltel) was approximately 4,229,000. During that same period, Cellular South had a total of 2,381 postpaid net customer additions. Nace Letter, Attachment at 4 (unpaginated) ("2009 Postpaid Net Adds").

[71] RCA Comments at 7-8.

[72] NTCA Comments at 1.

[73] Triad Comments at 3.

[74] *Id*. at 4.

they will find it more difficult to attract investment capital, and, ultimately, their ability to attract and retain customers will be eroded."[75]

The competitive consequences of the restrictive band class and mobile device arrangements will likely manifest themselves in several ways, none of which are beneficial to small rural and regional carriers or their customers.

One consequence is that "the largest carriers will get an unfair headstart over other carriers that may never diminish. . . ."[76] The Alliance agrees with Triad's analysis that, "[s]ince AT&T and Verizon have the largest customer bases, it is only natural that manufacturers will act to serve them first. . . ."[77] Triad concludes that "[s]mall, rural, and regional carriers' orders will be filled only much later, if at all, and they will be unable to take advantage of economies of scale, as they will be ordering devices with different technical specifications than those of the AT&T and Verizon."[78]

Supporters of the Alliance's Petition observe that this headstart for AT&T and Verizon is harmful both to competition and to consumers. For example, NTCA argues that "[e]xclusive equipment arrangements ensure that only the two largest providers will offer their subscribers the full array of applications and reasonable pricing that comes with volume[,]"[79] and concludes that

[75] RCA Comments at 10.

[76] Triad Comments at 10; *see* USCC Comments at 7 (arguing that "the mainstream vendor community has been reluctant to initiate the expensive process of developing chipsets, filters, amplifiers and other device components supporting Band Class 12 and 14 operations[,]" and that this is "guaranteeing AT&T and VZW head start advantages and assuring carryover of their market share dominance into 4G wireless broadband while their competitors are compelled to wait on the sidelines for the development of devices").

[77] Triad Comments at 10; see NTCH-Miller Comments at 2 (arguing that, because of AT&T's and Verizon's buying power, "manufacturers will either build no equipment serving the other spectrum bands or will delay its production. Smaller licensees or operators will therefore be delayed in being able to offer service at all.").

[78] Triad Comments at 10.

[79] NTCA Comments at 3.

"[n]ot only would the result be competitively detrimental, consumers living in areas Verizon and AT&T choose not to serve will be denied access to many of the benefits that 700 MHz spectrum offers."[80]

The remedy for this headstart problem is for the Commission to grant the Alliance's Petition and to ensure that mobile devices capable of operating across all paired spectrum in the 700 MHz Band are developed and produced by equipment manufacturers. Action by the Commission is needed to preclude the manufacturers from only producing equipment that works on the frequency blocks of the Big Two.[81]

A second competitive consequence of the 700 MHz restrictive band class and mobile device arrangements involves the dominoes that will topple if there is no roaming across the 700 MHz Band. If small rural and regional carriers utilizing Lower A Block spectrum are not able to participate in roaming arrangements with carriers operating in other 700 MHz frequency blocks,[82] then the carriers are likely to lose customers and revenues, and will find it more difficult to attract new customers. Consumers using 700 MHz services will expect to be able to access these services outside their home service areas. If small rural and regional carriers cannot

[80] *Id*.; *see* MetroPCS Comments at 10 (contending that "[t]he 700 MHz market will become competitively dysfunctional if the early equipment functions only on the C or lower B blocks").

[81] *See* MetroPCS Comments at 8. In an effort to offset the unfair headstart advantage that would accrue to the Big Two, the Alliance has requested the Commission to "immediately freeze the equipment authorization process for mobile equipment that would not be capable of operation on all paired commercial frequency blocks in the Lower and Upper 700 MHz Bands." Petition at 12. Verizon contends that an immediate freeze on equipment authorizations would be problematic, claiming that the Petition seeks a hybrid form of relief—initiation of a rulemaking and injunctive action—that is not contemplated by the Commission's rules. According to Verizon, the Alliance makes no effort to meet its heavy burden to show that a stay of equipment authorizations is warranted in this case. *See* Verizon Comments at 27; *see also* Consumer Electronics Association Comments at 3. The Alliance believes that its Petition, which now has been augmented by the record in this proceeding, satisfies the burden referenced by Verizon, since the dangers to consumers and competition posed by the Big Two's headstart are self-evident. The remedies available to the Commission through its initiation of a rulemaking proceeding could be largely nullified if, during the pendency of the rulemaking, AT&T and Verizon are permitted to proceed with their plans for procuring restricted 700 MHz mobile devices.

[82] See the discussion in Section II.E., *supra*.

provide this roaming service, they will be hard pressed to attract and retain customers. The resulting loss in revenues will have obvious ramifications, making it difficult for the carriers to build out 4G infrastructure, maintain service quality levels, attract investment, and pursue product and service innovations. These difficulties will combine to pose a serious threat to the competitive position of these small rural and regional carriers.[83]

A third competitive consequence of the 700 MHz restrictive band class and mobile device arrangements is that these arrangements will provide the Big Two with competitive advantages akin to the advantages these carriers reap from their exclusive handset deals.[84] Exclusive handset arrangements between the large wireless carriers and equipment manufacturers, in which a large carrier purchasing a particular handset model from a manufacturer extracts from the manufacturer an agreement not to sell or distribute the handset model to any other service provider, have been challenged, in a proceeding currently pending before the Commission, on the ground that the arrangements have widespread and far-reaching anti-competitive effects.[85]

Exclusive handset deals put smaller wireless carriers at the very back of line for handsets, because they lack the purchasing power of the Big Two.[86] The same will be true in the 700 MHz Band if the restrictive equipment arrangements are left undisturbed. Small rural and regional carriers will see their competitive position erode if they are not able to provide their customers with

[83] *See* PVT Comments at 2

[84] *See* Blooston Rural Carriers Comments at 2; MetroPCS Comments at 9; PVT Comments at 3.

[85] *See Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers*, RM-11497, Public Notice, DA 08-2278 (WTB rel. Oct. 10, 2008). The rulemaking petition was filed by RCA on May 20, 2008. The deal between AT&T and Apple involving Apple's iPhone is the most notorious example of exclusive handset arrangements.

[86] *See* NTCH-Miller Comments at 2 (arguing that exclusive handset deals make smaller carriers "less competitive against the majors because they cannot offer phones with the latest features" and that "[s]uch arrangements not only cripple competition but are a disservice to customers of other carriers who are denied access to devices that should be available to everyone").

affordable mobile devices that work across the 700 MHz Band, because equipment manufacturers are catering to the demands of the Big Two for the production of mobile devices that work only in the frequency blocks that are virtually the exclusive domains of the Big Two.[87] In fact, the Alliance agrees with USCC's analysis that "[i]n effect by offering devices capable of operating only on a single 700 MHz band class AT&T and VZW get many of the benefits of exclusive [handset] arrangements without being compelled to enter into such arrangements."[88]

Finally, although the Big Two claim that the Commission should have no concerns that they will engage in anti-competitive practices in connection with the use of their extensive 700 MHz spectrum holdings, these reassurances fall short of putting commenters' competitive concerns to rest. The Alliance agrees with RCA that the restrictive band classes are "demonstrably beneficial to AT&T and Verizon Wireless, as well as harmful to small rural and regional Lower A Block licensees and their customers."[89] Similarly, the restrictive mobile device production arrangements that AT&T and Verizon are pursuing with equipment manufacturers are demonstrably anti-competitive, for the reasons discussed in the record and summarized in these Reply Comments.

MetroPCS presents a "case study," involving Lower A Block spectrum, that demonstrates the manner in which the practices of the Big Two will have anti-competitive effects in the 700 MHz Band. Arguing that "[t]he Commission should not be swayed by Verizon's claim that it will not act anticompetitively since it also holds A Block spectrum[,]"[90] MetroPCS explains that

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[87] *See* USCC Comments at 10 (concluding that "any Band Class 12 or 14 licensee attempting to develop new devices in limited production quantities to compete with devices developed for AT&T or VZW will have significantly higher unit costs putting them at a significant competitive disadvantage").

[88] *Id.*

[89] RCA Comments at 12.

[90] MetroPCS Comments at 11 (footnote omitted).

Verizon is warehousing its Lower A Block spectrum because the spectrum "is not necessary for its initial launch of its nationwide 4G LTE network . . . ."[91] Because it does not need to use its Lower A Block spectrum in the near term, "Verizon can afford to allow it to lie fallow due to the absence of useful equipment, thereby denying other A block carriers access to the equipment they need to roll-out 4G services."[92] This, in a nutshell, is what is happening in the 700 MHz Band. Cellular South identifies a solution:[93]

> The Commission should make every reasonable attempt to create a competitive environment that enhances, not reduces, the value of spectrum. To foster a competitive market for spectrum and promote competition in the availability of wireless services the Commission should take steps now to prevent the nation's largest wireless companies from controlling the equipment design process so that only their own spectrum can be used by consumers.

The Alliance agrees with PVT that the Commission should not permit the Big Two to erect artificial barriers to competition in the 700 MHz Band, and should instead act to ensure that "[s]mall and regional carriers should be able to obtain the same variety and types of wireless devices, and to benefit from the same economies of scale that make equipment costs comparatively lower for the Big Two."[94]

III. PARTIES OPPOSING THE PETITION FAIL TO MAKE A CASE FOR COMMISSION INACTION.

Opponents of the Petition attempt to launch an attack on three fronts. First, they argue that a grant of the requested relief would conflict with Commission policies. Second, they con-

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[91] *Id.*

[92] *Id.* MetroPCS's analysis answers Verizon's claim that the Alliance's assertion that Verizon does not want mobile devises developed that work in the Lower A Block is nonsensical. Verizon Comments at 11. Even though Verizon has extensive Lower A Block spectrum holdings, it does not want any Lower A Block mobile devices developed now because it is warehousing the spectrum. Blocking the development of Lower A Block devices in the near term is consistent with Verizon's business plan and also hinders the ability of competitors to deploy 4G services.

[93] Cellular South Comments at 9.

[94] PVT Comments at 4.

tend that the Petition should be dismissed because any attempt to adopt the requested requirement for all-band mobile devices would trigger complex technical engineering issues. And, third, the opponents claim that legal and procedural issues serve as barriers to a grant of the requested relief. In the following sections, the Alliance shows that these attacks fail on all three fronts.

A. Claims That the Relief Sought by the Alliance Would Conflict with Various Commission Policy Goals Are Ludicrous.

Opponents of the Alliance's Petition argue that the relief sought by the Alliance would interfere with the Commission's policy of promoting the expedited deployment of 4G mobile broadband services, that the Petition should be denied because the Commission actions requested in the Petition would conflict with the agency's flexible approach to spectrum licensing and its policies promoting technological differentiation, and that grant of the Petition would not be consistent with the goals of the Broadband Plan. The Alliance examines each of these claims in the following sections, concluding that none of them has any merit.

1. Granting the Petition Would Not Impede 4G Broadband Service.

Verizon argues that "the Alliance has asked the Commission to effectively halt progress on 4G mobile broadband networks using 700 MHz [by] impos[ing] a technically invalid mandate that would block the development of 700 MHz 4G devices—and thus the deployment of wireless broadband services."[95] Verizon also contends that the action sought by the Alliance "would take the Commission into equipment design . . . ."[96]

Verizon greatly distorts the situation when it claims that grant of the Petition will "block" 4G deployment.[97] The relief sought by the Alliance will neither block the development of 700 MHz 4G mobile devices nor halt the development and deployment of wireless broadband servic-

[95] Verizon Comments at 13.

[96] *Id.*

[97] *Id.*

es.[98] The Alliance and many commenters in this proceeding have explained that the development and production of 700 MHz mobile devices are following a wasteful path, largely designed by the Big Two in order to leverage their large 700 MHz spectrum holdings and their resulting dominant equipment purchasing power to steer the manufacturing process in a direction that serves their interests.

Granting the Petition would chart a new and improved course for 700 MHz mobile device production. This new course would enable the production of affordable all-spectrum 700 MHz mobile devices, thus facilitating deployment in rural and small regional unserved and underserved areas. The production of these devices will also address public safety needs (*e.g.*, all-band roaming and capacity issues). This course correction is needed in order that broader interests than those of AT&T and Verizon may be served.

The Alliance will address in a following section opponents' claims regarding the technical feasibility of producing and utilizing mobile devices that will operate across the 700 MHz frequency blocks,[99] but it suffices to state here that the opponents of the Petition have not shown (and indeed, given the facts, could not show) that the Petition is seeking a mandate that is technically invalid.

Finally, the relief sought by the Alliance most certainly would not involve the Commission in the design of mobile devices. The Alliance is merely asking the Commission to utilize its expertise to make a judgment about the technical and economic feasibility of all-spectrum mobile devices for the 700 MHz Band, because the market has not been able to function and has demonstrably made choices that are skewed in favor of the Big Two and are detrimental to

[98] The issue of whether a grant of the Petition would delay 4G broadband deployment is discussed further in Section III.A.3., *infra*.

[99] These issues are discussed in Section III.B., *infra*.

Commission policies, consumers, public safety, and competition. If the Commission, in making these judgments, mandates the production of all-spectrum mobile devices, then the Alliance would expect that the particulars of subsequent mobile device design and development will remain within the province of the industry.

2. Although the Alliance Favors the Commission's General Policy of Non-Intervention in Technological Matters, This Policy Must Be Balanced with the Need To Correct Market Failures.

Verizon argues that the Commission has promoted technological differentiation among mobile providers, and has refrained from intervening in technology choices, or from imposing standards for wireless technologies. According to Verizon, "[i]t would be inconsistent with decades of decisions on similar issues to find now that the Communications Act mandates technological uniformity in the way the Alliance requests."[100] In addition, Motorola contends that "[g]ranting the petition would . . . reverse a long-standing and successful Commission policy in favor of technology neutrality [that] underpins the Commission's flexible use licensing regime . . . ."[101] It is difficult to conceive of more misplaced "analyses."

The Alliance is most supportive of the Commission's policy of providing wireless carriers with considerable latitude to make technological choices that make efficient and effective use of their licensed spectrum, are tailored to the carriers' business plans, and are responsive to competitive demands. The Alliance recognizes, however, that there are instances in which continued deference to the industry with regard to technological choices could threaten other Commission policies and result in harm to consumers and competition. The record in this proceeding demon-

[100] Verizon Comments at 15; *see* AT&T Comments at 7 (footnote omitted) (noting that "[t]he Commission has consistently adopted a flexible use approach to 700 MHz Band operations—allowing licensees substantial flexibility in their choice of use, technology, and devices based upon the business needs of the licensee").

[101] Motorola Comments at 9.

strates that the restrictive band classes and equipment procurement arrangements that have emerged in the 700 MHz Band present such an instance.[102]

Moreover, the Alliance does not agree with Motorola's claim that the relief sought in the Petition would conflict with the Commission's "technology neutrality" policy. The Alliance is asking the Commission to establish standards for 700 MHz mobile devices, which are necessary to achieve the Commission's goals for the utilization of 700 MHz spectrum. These standards would apply in a neutral manner to all 700 MHz licensees, and would not constrain their choices in building out their networks and developing services.

Even assuming, *arguendo*, that granting the Petition would somehow interfere with the Commission's policies regarding technological neutrality, the agency has taken similar steps in cases in which it has concluded that circumstances required it to abandon a posture of neutrality in order to protect other policies that were in jeopardy. The Commission's recent *USF Interim Cap Order* serves as an instructive analogy to the circumstances that prompted the Alliance's Petition.[103] The Commission concluded in that Order that severe upward pressure on the size of the Universal Service Fund ("USF") high-cost mechanism was placing the USF in imminent danger, presenting the need for immediate interim action while the Commission continued to pursue long-term comprehensive universal service reform. The Commission decided to suspend its principle of competitive neutrality temporarily in order to impose an interim cap on high-cost disbursements to wireless eligible telecommunications carriers ("ETCs"), based upon the Com-

[102] It is reasonable to conclude that the emergence of these restrictive arrangements is a product of the dominance of the Big Two in the 700 MHz Band, as illustrated by the fact that they hold 81 percent of the MHz-pops in the band. See Section II.F.1., *supra*.

[103] *See High-Cost Universal Service Support; Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Order, 23 FCC Rcd 8834 (2008) ("*USF Interim Cap Order*"), *aff'd, Rural Cellular Ass'n v. FCC*, 588 F.3d 1095 (D.C. Cir. 2009).

mission's conclusion that recent disbursements to wireless ETCs were largely responsible for the precipitous growth in the high-cost mechanism.[104]

Similarly, in this case the Commission would be ill-advised to adhere rigidly to its preference for technological flexibility, because the market failure in the 700 MHz Band that has been described in the record is placing the Commission's pro-consumer and pro-competitive policies in dire jeopardy.

3. Concerns That the Relief Sought by the Alliance Would Frustrate the Goals of the National Broadband Plan Are Unfounded.

AT&T notes that, "[i]n the National Broadband Plan, the Commission sets a lofty goal of providing every American with affordable access to robust broadband service,"[105] and then claims that the Petition conflicts with the goals of the Plan because granting the Petition "risks delay in the rollout of broadband services on [700 MHz LTE] networks."[106]

Notably, AT&T does not provide any analysis of the potential scope or length of the delay that it fears. Nor does AT&T even address the problems that would occur if the Commission decides not to act to ensure the availability of all-spectrum mobile devices in the 700 MHz

[104] *See id*. at 8845 (para. 22) (finding "that, rather than departing from the principle of competitive neutrality, as a matter of policy, we instead are temporarily prioritizing the immediate need to stabilize high-cost universal service support and ensure a specific, predictable, and sufficient fund") (footnote omitted). The Alliance notes that it agrees with many parties who opposed the imposition of the USF interim cap on the grounds that the Commission's analysis used to support the cap was flawed. *See, e.g.*, Comments of RCA and Alliance of Rural CMRS Carriers, *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, filed June 6, 2007.

[105] AT&T Comments at 10 (footnote omitted); *see* Motorola Comments at 2-3. Motorola also suggests that a grant of the Petition could delay deployment of 700 MHz public safety broadband networks, for which waivers currently are being sought from the Commission. *Id*. at 3. PSST has pointed out, however, that it has previously requested that the Commission "require all public safety entities operating on the PSBL spectrum (including local, state, and regional public safety entities that are seeking authority to deploy broadband networks) to ensure that their networks incorporate full roaming functionality." PSST Comments at 6 (footnote omitted). Moreover, PSST in this proceeding is advocating that the Commission should consider the development and deployment of 700 MHz multi-band equipment. *Id*. at 1-2, 7.

[106] AT&T Comments at 11.

Band.[107] Failure to grant the relief the Alliance is seeking would pose a far greater threat to the policies developed in the Broadband Plan.[108]

In deciding whether to grant the Petition and initiate a rulemaking, the Commission should weigh the possible short-term consequences of Commission action against the likely longer-term results if the Commission chooses not to act.[109] The Alliance submits that there is a clear choice: Its Petition should be granted because, even assuming *arguendo* that some short-term delays in the roll-out of 4G services could result, the public interest would be far better served by granting the Petition and thus ensuring that consumers (especially those residing in rural areas), the public safety community, and competition benefit from the effective use of spectrum (including the provision of 4G services) in the 700 MHz Band.

B. Technical Issues Raised by Opponents of the Alliance's Petition Fail To Provide Any Basis for Denying the Petition.

A principal story line the opponents of the Petition attempt to develop is that the Petition—regardless of its merits from a policy perspective—should not be granted by the Commission because it raises too many technical issues. According to this story, small rural and regional carriers—as well as the Commission—should be content with the *status quo* because it reflects a reasonable response to technical problems presented in the 700 MHz Band, and because any at-

[107] *See* RTG Comments at 3:

> By allowing large operators to dictate which frequencies within the 700 MHz band LTE mobile devices can operate on, the FCC will unintentionally interfere with 700 MHz licensees in their ability to build-out and operate LTE networks, and in the process, make it all but impossible for some Americans, especially those living in rural markets, to enjoy the benefits of 4G mobile services both locally and nationwide.

[108] *See* RCA Comments at 5-6.

[109] *See* MetroPCS Comments at 20 (arguing that "the Commission will be faced with an important policy question: are the alleged short term consequences of the compatibility requirement sufficient to outweigh the obvious long term benefits of allowing the 700 MHz band to develop in a more open and competitive fashion?").

tempt by the Commission to undo the *status quo* would open up a Pandora's box of technical issues that would delay 4G deployment and inflate the cost of mobile devices.

Those claims ignore the fact that this case is more about trade-offs than it is about technical issues. There is no question but that it is technically feasible to design band classes in a manner that achieves interoperability across the 700 MHz paired, commercial spectrum blocks and that avoids walling off the Lower A Block. The only "problem" with such a design is that it does not advance the business plans of the Big Two[110] because it would arguably increase (to some unspecified degree) the Big Two's mobile device costs (compared to the costs of mobile devices designed to work exclusively in Band Class 13 and Band Class 17) and it would introduce difficulties for the Big Two with regard to the interoperability of their mobile devices in both the 700 MHz Band and other spectrum held by AT&T and Verizon.

The band classes that were adopted, and the equipment ordering strategies of the Big Two, reflect trade-offs that, on their face, are accommodating to the business objectives of the Big Two. The resulting *status quo*—that is, the band classes and the restrictive equipment procurement decisions that follow in their wake—raise two questions for the Commission. First, do these trade-offs serve the Commission's policies, as well as consumers, the public safety community, and competition? The Alliance submits that the record shows convincingly that they do not. Second, are the trade-offs a result of technical engineering imperatives, or could other choices have been made that would have been sufficient from a technical perspective? In the following sections the Alliance demonstrates that there are reasons to doubt that technical constraints precluded other satisfactory choices.

[110] *See* RCA Comments at 14-17.

1. There Is No Sound Technical Basis for Isolating the Lower A Block in a Separate Band Class Based on Interference Concerns.

The position taken by the opponents of the Petition with regard to the Lower A Block appears to be that interference problems present in the Lower A Block necessitate isolating the block (by creating a separate band class for the Lower B and C Blocks), because to do otherwise would result in mobile devices, for use in Blocks A, B, and C, with sub-optimum solutions for potential interference problems.[111]

Thus, Motorola, Inc. ("Motorola"), states flatly that "[t]he decision to identify band class 17 separately from band class 12 was based entirely on a desire to avoid harmful interference that would negatively affect the operation of 700 MHz mobile broadband devices, not on any anticompetitive or discriminatory agenda[,]"[112] and then argues that, "[b]ecause the lower 700 MHz A block is directly adjacent to the high powered E block and TV channel 51 transmissions, the [current state-of-the-art] duplex filter is unable to sufficiently attenuate these signals, resulting in potential interference."[113]

Motorola attempts to explain the basis for dealing with this potential interference by isolating the Lower A Block, expressing its view that the band classes developed by the 3GPP standards organization reflect "the technical challenges of producing mobile devices in the band that

[111] *See* AT&T Comments at 8 (arguing that "mandating handset functionality for all paired 700 MHz spectrum bands would not only risk impeding the development of those service offerings, but would also work against the public interest by subjecting all 700 MHz licensees and their customers to significant interference risks, solely for the benefit of A block licensees") (footnote omitted).

[112] Motorola Comments at 4.

[113] *Id.* at 5; *see* Verizon Comments at 8 (arguing that, in order to achieve sufficient out-of-band rejection, filters and duplexers must have a minimum frequency separation between the passband and the stopband, and concluding that, "[c]onsequently, a device designed to pass blocks A, B, and C would be less able to reject harmful interference from block E than one designed to pass only B and C").

cover all of the commercial blocks given the particularly difficult interference environment."[114] Motorola contends that establishing Band Class 17 addresses these technical challenges: "[T]he difficulties associated with potential interference from mobile devices to TV channel 51 receivers and interference from block D and E 50 kW transmitters drove the development of this band class [Band Class 17] in order to implement duplexer / filter requirements with current technology."[115] According to Motorola, by excluding the Lower A Block from Band Class 17, the 3GPP standards organization was able to establish filter transitions and duplex gaps "that are sufficient to mitigate the various interference concerns . . . ."[116]

On its face, Motorola's assertions do not hold water: The same 3GPP that Motorola tells us found Band Class 17 to be required is the very entity that also established Band Class 13 (Verizon's Upper C Block), apparently believing it to be acceptable. There are two additional fatal flaws with the formulations advanced by the opponents of the Petition. First, as USCC has pointed out, at least one participant in the 3GPP process (Ericsson) explained during those deliberations that setting up a separate Band Class 17 (for the Lower B and C Blocks) could cause

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[114] Letter from Steve B. Sharkey, Robert D. Kubik & Alexander Gerdenitsch, Motorola, to Marlene H. Dortch, Secretary, FCC, RM-11592, Feb. 8, 2010 ("Motorola Letter"), at 2 (unpaginated). Motorola explains the interference problems in the Lower A Block as follows:

> The band class 12 transmission situation is . . . complicated by the desired signal to undesired signal ratio (D/U) requirements placed on lower 700 MHz A block transmitters in order to protect TV broadcast operations in channel 51, and the potential for interference to lower 700 MHz A block operations caused by channel 51 transmissions.

Motorola Comments at 5.

[115] Motorola Letter at 2 (unpaginated); *see* AT&T Comments at 5 (claiming that "Motorola proposed the separate band plan for purely technical reasons arising from possible interference between the A block and other spectrum bands"); *id*. at 6 (arguing that "[t]he best way to alleviate this interference potential was to create Band 17, and thus, limit the operation of some 700 MHz devices to the Lower B and C blocks").

[116] Motorola Comments at 6; *see* AT&T Comments at 5-6.

problems because using two duplexers to cover only a part of the lower 700 MHz frequencies contradicted economies of scale and could also lead to market fragmentation.[117]

Ericsson concluded that, "[u]nless there is a *severe* problem with TX [transmission] IM [intermodulation] and difficult MediaFLO into LTE UE [user equipment] interference scenarios that can be identified, Band [17] *should not be introduced* considering the risk of market fragmentation."[118] Ericsson's concerns are placed in even higher relief by the fact that Verizon has conceded that the "technical challenges in deploying Band Class 12 equipment . . . are not insurmountable . . . ."[119] Given the fact that it is likely that numerous approaches can be developed to address these technical challenges, there seems little basis for establishing a new Band Class 17, other than to enable AT&T to fragment the market by procuring mobile devices that work exclusively in the new band class.

The market fragmentation that Ericsson anticipated is now upon us:[120] The establishment of Band Class 17, coupled with Verizon's refusal to support Band Class 12 devices in the short term, has isolated Lower A Block spectrum and made it very unlikely that Lower A Block licenses will be able to provide 4G mobile devices to their customers. In light of the numerous adverse consequences of this market fragmentation, which have been documented in the Petition and in many of the comments, a rulemaking proceeding is necessary to ascertain whether there was a sufficient basis for the 3GPP standards process to ignore Ericsson's analysis and concerns.

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[117] Ericsson, Discussion Draft, "On the introduction of Band 15," TSG-RAN Working Group 4 (Radio) Meeting #47bis (June 16-20, 2008) ("Ericsson Discussion Draft") at 1 (unpaginated) (cited in USCC Comments at 5 n.10). Band Class 15 was later redesignated as Band Class 17.

[118] *Id*. at 5 (unpaginated) (emphasis added).

[119] Verizon Comments at 9.

[120] *See* USCC Comments at 5.

A second issue is whether a satisfactory solution to the Lower A Block interference problems, which would have avoided the need professed by Motorola to establish Band Class 17, was available in the 3GPP standards process. It would be appropriate for a rulemaking proceeding to examine this issue. For example, it might be possible to use an A+B duplexer and a B+C duplexer, in the same mobile device, that would sufficiently address Channel 51 and D and E Block interference issues, without significantly adding to the cost or complexity of the device. Such a duplexer array would eliminate the need for Band Class 17, and would also avoid the current market fragmentation (and loss of economies of scale) caused by the use of this band class.

A possible technical advantage of using such an approach would be that, now that a mobile device for Band Class 17 has been developed, the components made for Blocks B and C could be used and augmented for use with Blocks A and B, creating a technical solution enabling a mobile device that would work on all the frequency blocks in Band Class 12.

With respect to Channel 51 interference, AT&T claims that the Alliance should not now be heard to complain regarding this interference problem associated with the Lower A Block because participants in Auction No. 73 had fair warning that the problem would affect Lower A Block licensees.[121] Either this AT&T argument is a vintage red herring or AT&T fundamentally misunderstands the gravamen of the concerns being raised by the Alliance. Members of the Alliance were aware of the Commission's interest in protecting the operations of core TV channels from interference, and there is nothing in the relief that the Alliance seeks that undermines such protections. Significantly, Ericsson is on record as agreeing that Channel 51 interference "does not in itself motivate the introduction of Band [17] . . . ."[122]

[121] AT&T Comments at 9-10.

[122] Ericsson Discussion Draft at 2 (unpaginated).

A principal concern of the Alliance, which AT&T overlooks, is that Lower A Block licensees expected that Channel 51 interference issues would be addressed within Band Class 12, which would result in the production of affordable mobile devices in bulk quantities that would address interference issues and also be interoperable in the Lower A, B, and C frequency blocks. In fact, the 3GPP plan to introduce an "Operating Band XII" in the lower 700 MHz frequency band, which would be comprised of the Lower A, B, and C Blocks, was formulated in November 2007, before commencement of Auction No. 73.[123] This plan did not call for establishing a separate band class that would include only the Lower B and C Blocks.

It was only after completion of the auction that AT&T hatched its plan to lobby for the new Band Class 17. Its lobbying success enabled AT&T to direct the production of mobile devices that would not work in the Lower A Block. These post-auction developments frustrated the Lower A Block licensees' expectations and have led to the present situation, in which these licensees cannot obtain affordable mobile devices for use in connection with the roll-out of 4G mobile broadband services.

2. Opponents of the Petition Do Not Prove Their Case That the Need for Duplexers, Filters, and Other Components Makes It Technically Infeasible To Produce 700 MHz All-Band Mobile Devices.

Opponents of the Petition raise numerous arguments with the common theme that developing and producing an all-band 700 MHz mobile device would not be a practical undertaking because there are too many technical roadblocks. The opponents fail to substantiate these claims.

[123] *See* 3GPP TR 25.822, v1.0.0, 3rd Generation Partnership Project; Technical Specification Group TSG RAN; UMTS 700 MHz Work Item Technical Report (Release 8) (dated Nov. 2007), at 14 (Sec. 6.1).

a. The Commission Should Closely Examine Claims Regarding the Costs and Complexities Associated with Developing and Producing All-Band 700 MHz Mobile Devices.

Verizon argues that the main reason that the band classes established for 700 MHz spectrum are for either lower 700 MHz or upper 700 MHz (but not for both the upper and lower bands) is that (like the cellular and Personal Communications Service ("PCS") bands) the upper and lower 700 MHz frequency bands are separate and distinct, and "decisions about which bands to include in devices that are being built and sold are made independently."[124]

Verizon contends that the upper and lower 700 MHz frequency bands "cannot be considered as a single contiguous band of spectrum because the frequencies used for mobile transmission are not all contiguous."[125] According to Verizon, this configuration means that "it is not possible to support both the Lower and Upper 700 MHz spectrum blocks in the same duplexer in the mobile device."[126] Yet, Verizon concedes that there is a practical solution to this problem: The use of multiple duplexers in the same mobile device.[127] So Verizon acknowledges that "it is possible to build a device with multiple duplexers," but that "this would impose additional cost and complexity that must be weighed against other factors, including whether other bands outside 700 MHz can be included in the device."[128] So, it is clear that there are no technical barriers to what the Alliance seeks, only cost and convenience issues.

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[124] Verizon Comments at 5.

[125] *Id*.

[126] *Id*. at 6. Notably, this is the same Verizon that has also told the Commission that it is feasible to solve the technical challenges posed with respect to the development of Band Class 12 equipment. *See id*. at 9.

[127] *Id*. at 7.

[128] *Id*.; *see* AT&T Comments at 8-9. Although Verizon does not acknowledge in its comments any plans to incorporate MediaFLO capability in its mobile devices, the fact is that both Verizon and AT&T have signed deals with MediaFLO (a Qualcomm company) in the U.S. "Local TV Stations Join for Proposed Mobile TV Service," BROADCAST ENGINEERING, Apr. 19, 2010, accessed at http://broadcastengineering.com/news/local-tv-stations-join-proposed-mobile-tv-service-0419/. MediaFLO™ technology provides a scalable "open mobile entertainment platform with the highest content capacity combined with a visually

While a single duplexer cannot support spectrum blocks in both the upper and lower 700 MHz frequency bands, the real issue is what "additional cost and complexity" is associated with using multiple duplexers in a single device. The fact is that neither Verizon nor any other opponent of the Petition provides a definitive analysis that quantifies these costs and complexities or demonstrates that it would be unreasonable, from a technical perspective, to use multiple duplexers for the purpose of developing and producing a mobile device that would work in the upper and lower bands.

In fact, Verizon seems to suggest that these issues of cost and complexity are *not* prohibitive in themselves, but that, instead, they must be weighed against other considerations, namely Verizon's business plan to transition its customers on its legacy 3G networks (that use cellular and PCS bands) to Verizon's 700 MHz 4G LTE network, as well as its interest "in providing products and services that address the broader global market."[129] Then Verizon writes the following revelatory sentence:[130]

> Given that Verizon Wireless does not plan to deploy its Lower A Block spectrum in the near term, it makes no sense for it (or its 4G customers) to bear the burden of additional cost associated with including that band in its initial LTE devices, or for its customers to sacrifice the benefits they will gain from greater coverage through roaming onto the 3G network and lower equipment costs in order to include a band that *is not needed at this time*.

Thus, Verizon makes it clear that (1) it is warehousing Lower A Block spectrum; (2) it favors roaming—but not in the 700 MHz Band; (3) it does not want to bear any of the cost of mobile

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compelling mobile experience." MobileFLO Website, accessed at http://www.mediaflo.com/. Incorporation of MediaFLO capability in Verizon's or AT&T's mobile devices would seem to raise issues of "additional cost and complexity." A Commission rulemaking would be an appropriate forum for examining the costs, technical constraints, and trade-offs involved in adding MediaFLO capability, relative to adding all-band capabilities requested by the Alliance, in 700 MHz mobile devices.

[129] Verizon Comments at 10-11. Verizon's interest in roaming outside the 700 MHz Band is also discussed in Section III.B.3., *infra*.

[130] *Id*. at 11 (emphasis added).

device solutions that will enable the deployment of 4G services in small rural and regional markets as well as roaming between the Lower A Block and other 700 MHz spectrum blocks; and (4) mobile devices that include the Lower A Block will be needed, but only when Verizon decides to utilize this spectrum.

The most reasonable inference from Verizon's discussion is that there *are* technical solutions that will make mobile devices work in both the upper and lower 700 MHz frequency bands and that will address Lower A Block interference issues, and that Verizon will employ these solutions when it decides to use its warehoused Lower A Block spectrum. The Alliance submits to the Commission that, contrary to Verizon's view, the Lower A Block *is* needed at this time, for all the reasons demonstrated in the Petition and in the comments. The Alliance urges the Commission to consider and act upon this need.

Qualcomm Incorporated ("Qualcomm") parrots the concerns of its largest customer, Verizon, pointing out that there is potential for interference between the upper and lower 700 MHz frequency bands "because there is almost no guard band between any of the individual frequency blocks in the Lower and Upper 700 MHz bands, and the duplex spacing and gap within the Lower and Upper 700 MHz bands is relatively narrow."[131] Qualcomm acknowledges that the use of narrow filters can effectively address these interference issues, but concludes that granting the Petition would require the use of wider filters "because the devices would have to be capable of operating across the entire Lower and Upper 700 MHz bands within which the paired commer-

[131] Qualcomm Comments at 6; *see* Motorola Comments at 5-6 (indicating that, because there is only 12 megahertz between the uplink band and the downlink band in Band Class 12, "mobile terminals are more likely to erroneously receive transmissions and thus experience interference from other nearby mobile terminals").

cial blocks are located."[132] Qualcomm claims that using wider filters would increase the potential for interference.[133]

It may be the case that wider filters could be necessary to accommodate potential interference issues presented in the case of mobile devices designed to operate on both the upper and lower bands. But this possible need for wider filters raises two issues. First, how severe would the potential interference be for mobile devices that can operate in both the upper and lower bands? Opponents of the Petition do not provide any detailed information regarding this question. They offer an explanation of why the potential for interference would exist, but they do not analyze or measure what the scope and extent of the interference would be.

Second, is the degree of potential interference—even if it is greater than would be experienced in mobile devices that do not work in both the upper and lower bands—worth tolerating because of the benefits of producing a device that works in both bands, (*i.e*., facilitation of 4G deployment in rural and small regional markets, greater 700 MHz roaming capabilities, benefits to consumers and to the public safety community, the promotion of competition)?

Neither of these questions has been answered in the 3GPP standards process or in the current record. The implicit response to these questions by the Big Two seems to be that they should have unfettered discretion to order the development and production of mobile devices to be used

[132] Qualcomm Comments at 6. While Qualcomm appears to conclude that *wider* filters would be necessary to provide the relief sought by the Alliance, Motorola takes a different view, indicating that the Alliance's approach would require either wider duplex filters, "which would exacerbate interference problems, *or additional* duplex filters." Motorola Comments at 4 (emphasis added). Thus, there appears to be disagreement between the Big Two's supporters regarding options that would be available to implement the requirement requested in the Petition. Such disagreements make it inadvisable for the Commission to rely on undocumented claims made by the opponents of the Petition regarding costs and delays that would be caused if the Commission were to grant the Petition.

[133] *Id*.; *see id*. at 5 (claiming that "a grant of the Petition would delay the availability of 700 MHz devices by an unspecified period of time and would drive up the costs of such devices by an unspecified amount"); Motorola Comments at 7 (arguing that "a full transmit and receive chain is required. This would necessitate multiple filters, duplexers and other technical solutions inside devices, which will have a corresponding effect on the size, power consumption, complexity, and cost of each device.").

exclusively in their band classes, thus mooting consideration of the advisability of producing multi-band devices. The Alliance disagrees, because there are public policy reasons to decide whether it is possible and advisable to produce multi-band mobile devices that capture the benefits described above. The Alliance therefore urges the Commission to grant its Petition and initiate a rulemaking to resolve these questions and then take the actions necessary to protect and promote the Commission's 700 MHz and broadband policies.

b. The Commission Should Look Behind Opponents' Assertions Regarding the Limits of Current Technologies.

In addition to arguing that the configuration of the upper and lower 700 MHz frequency bands makes all-spectrum mobile devices problematic, some opponents of the Petition also contend that producing a mobile device that solves these interference issues is not possible with the technology that they have today. Thus, Qualcomm states that a grant of the Petition would require equipment manufacturers that choose to use Qualcomm chipsets to add various front-end components (*e.g.*, filters, duplexers, power amplifiers, switches) but that Qualcomm has chosen not to make "these front-end components, and several of the necessary front-end components are not available today from any vendor."[134]

Qualcomm also contends that, even if these front-end components were available, "it is impossible to fit these additional components into standard industry form factors, such as USB dongles already designed and planned for operation on 700 MHz."[135] Finally, Qualcomm indi-

[134] Qualcomm Comments at 4; *see* Motorola Comments at 4-5 (arguing that "[c]urrent filter technologies are not sufficiently refined to be both wide enough to cover the entire 700 MHz band and selective enough to avoid interference from (and to) the other high-power services in the 700 MHz band").

[135] Qualcomm Comments at 5.

cates that its current chipsets would not support mobile devices that would be mandated if the Commission grants the relief sought in the Petition.[136]

The scope of what can be accomplished by today's technologies, concerning the development and production of all-band 700 MHz mobile devices, has been predetermined by the types of mobile devices that the Big Two have decided to use for their 700 MHz spectrum services. So, to the extent that there are limitations in today's technologies, and these limitations may affect the relief sought in the Petition, these reflect largely what the Big Two and their vendors prefer—and not any absolute technological limitations.

In other words, AT&T and Verizon have told the chipset maker and equipment manufacturer that they want *x* (*i.e.*, mobile devices that work exclusively in the Upper C Block, and the Lower B and C Blocks). Therefore, the technology has been developed or adapted as necessary to produce *x*. If the Big Two had instructed that they wanted *y* (*i.e.*, mobile devices that are interoperable across 700 MHz frequency bands) then the Alliance believes that the current state of technology would now be sufficient to produce *y*.

One example involves the number of separate frequencies that can be supported by Qualcomm's state-of-the art chipset, the RTR8600. As the Alliance has discussed, Verizon has indicated its desire to purchase mobile devices that enable interoperability between its 700 MHz 4G frequencies and its cellular and PCS frequencies. The RTR8600 chipset, which supports five frequencies, meets this specification. In the Alliance's view, however, the capabilities of Qualcomm's chipsets would likely be more extensive if the Big Two had presented different specifications for 700 MHz Band mobile devices.

[136] *Id.*

The opponents of the Petition are seeking to have it both ways: Now that they have produced a *status quo* that serves the Big Two's business plans, they are arguing that the current arrangements must be left in place because the current state of technology makes any modification of these arrangements problematic. The Alliance urges the Commission not to accept the opponents' "defense" of the *status quo* that they designed. Given the explanations in the record regarding the harms that will be caused by the current arrangements, the Alliance urges the Commission to initiate a rulemaking to examine options for modifying the *status quo* and ensuring the timely production of mobile devices that will work in all paired commercial 700 MHz frequency blocks.

3. Concerns Expressed by Opponents of the Petition Regarding Technical Limitations Affecting 700 MHz Roaming Capabilities Are Vastly Overstated and Distorted.

While some of the opponents of the Petition attempt to frame roaming as a technical issue,[137] AT&T makes it clear that the issue of roaming involves trade-offs rather than technical restraints *per se*. AT&T expresses alarm over the fact that, if the Petition is granted, "manufacturers might be forced to develop 700 MHz-only devices that cannot roam onto 850 MHz cellular or 1900 MHz PCS networks."[138] AT&T sees this as a bad result: "These types of trade offs could lead to gaps in service that harm the public interest. For example, 700 MHz only devices could create public safety islands by preventing a future 700 MHz public safety network from plugging 700 MHz coverage gaps with existing 850/1900 MHz networks of commercial wireless

[137] *See* Motorola Letter, Attach. at 6 (discussing the need for user equipment to support several bands for national and international roaming, and the technical limitations on the number of bands that can be supported).

[138] AT&T Comments at 9.

carriers."[139] Notably, AT&T provides no support for any of its far-fetched speculation that borders on constituting an old-fashioned scare tactic.

Verizon also calls attention to these trade-off's, expressing its view that the number of bands that can be supported in single mobile device is subject to practical limitations, and that "Verizon Wireless' business needs require that it focus on devices that would operate on the three bands it will use for its EV-DO and LTE networks (850 MHz, 1.9 GHz, and 700 MHz), as well as several bands that are used in Europe and other parts of the world."[140]

Thus, the fact that the current band classes and equipment procurement decisions preclude any roaming in the 700 MHz Band is not the result of technical engineering imperatives, but rather is the result of trade-offs that have been made. It is interesting to note that, during the 3GPP discussions, Motorola appears to have assumed that an objective would be to ensure roaming among the 700 MHz frequency blocks. In discussing the advisability of establishing a new Band Class 17, Motorola observed that, if the new band class was added:[141]

> the number of operating bands a UE terminal would need to support would increase and some practical limitations may be necessary to reduce implementation complexity. In this scenario roaming between band 12, 13, 14 and [17] could be impacted depending on the number of E-UTRA support bands a UE could support.

Thus, Motorola made clear that the capability of Band Class 17 mobile devices to roam across other 700 MHz band classes was a factor to consider in deciding whether to establish the new band class. As matters turned out, however, AT&T pressed successfully for the new band class

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[139] *Id.*

[140] Verizon Comments at 11. Presumably, these are the same "business needs" that have caused Verizon to decide to warehouse 700 MHz spectrum indefinitely.

[141] Motorola, "TS36.101: Lower 700 MHz Band 15," 3GPP TSG-RAN Working Group WG4 (Radio) Meeting #47 (Apr. 5-9, 2008) at 3 (Sec. 3.4). E-UTRA (Evolved Universal Terrestrial Radio Access) refers to a 3GPP LTE upgrade for mobile networks.

and then opted for mobile devices that will work in that band class but will not roam across other 700 MHz frequency blocks.

AT&T attempts to rationalize the trade-offs it made in its mobile device procurement decisions by arguing that they protect the interests of the public safety community. But PSST has argued to the contrary, urging the Commission to consider a trade-off that "ensure[s] that public safety wireless broadband users have nationwide roaming capability on both the public safety broadband network as well as on commercial 700 MHz licensees' networks."[142]

With respect to Verizon's support for trade-offs that promote its business plan, the Alliance believes that the Commission should not let this stand. Instead, the Commission should initiate a rulemaking to decide whether the trade-offs that thus far have been produced by the marketplace, in which roaming across the 700 MHz Band will be precluded, should be replaced by trade-offs that better serve the Commission's policies.[143] In addition, the Commission should examine the extent to which practical and technical limitations affecting mobile device design and operation do in fact force the trade-offs discussed by opponents of the Petition.

4. Other Issues Raised by Opponents of the Petition Regarding Technical Constraints, the 3GPP Standard-Setting Process, and Related Matters Do Not Provide a Persuasive Basis for Dismissing the Petition.

In the following paragraphs the Alliance discusses various additional arguments that opponents of the Petition advance in an attempt to provide a basis for dismissing the Petition. The Alliance demonstrates that these arguments are deficient and unpersuasive on numerous grounds, and should not deflect the Commission from granting the relief sought by the Alliance.

The 3GPP Standards Process.—Verizon argues that the Alliance's criticisms of the 3GPP standards process are not well-founded because "3GPP uses an open participation process

[142] PSST Comments at 7.

[143] *See* RCA Comments at 10-11.

for standards setting" in which "3GPP contributions are evaluated on their technical merits based on the expertise of all participating companies."[144]

There is precious little sense to Verizon's argument. The 3GPP focuses on technical rather than public interest issues. Moreover, it is ludicrous to suggest that either the Alliance or any of its members could overcome entities such as AT&T, who strongly advocated in favor of establishing Band Class 17. After all, the concerns of Ericsson were not sufficient in that respect.

The Alliance is not opposed to the Commission's leaving to industry organizations the task of working out technical solutions to spectrum issues and developing standards that facilitate the efficient use of spectrum. The Commission, however, cannot cede its authority to review the product of this standard-setting process to ensure that the standards are grounded in technical requirements and imperatives, and that the standards do not raise unnecessary barriers to the achievement of the Commission's pro-consumer and pro-competitive policies. On this basis, the Alliance submits that the case has been made that the 700 MHz band classes, and the equipment procurement strategies being followed by the Big Two, warrant Commission review.[145]

In addition, issues discussed by USCC provide a further basis for this review. USCC demonstrates in its comments that AT&T lobbied for changes in the 3GPP standards initially proposed for 700 MHz mobile devices, so that AT&T could avoid being subject to requirements applicable to Band Class 12 devices. AT&T's support of Band Class 17 was motivated by its extensive holdings in the Lower B and C Blocks.[146] AT&T launched these lobbying efforts in June 2008, and "[s]ome months later, AT&T was successful in getting its proposed new band class . . .

[144] Verizon Comments at 3.

[145] *See* RCA Comments at 12.

[146] USCC Comments at 4-5.

."[147] Given the nexus between AT&T's interests and the establishment of Band Class 17 as part of the 3GPP standards, the Alliance believes the Commission should examine whether the need for Band Class 17 is defensible on strictly technical grounds, and whether other technically sufficient solutions to Lower A Block interference issues (that would have avoided market fragmentation) were available.

Criticism of the Alliance's Intent.—Verizon claims that the Petition is subject to criticism because the relief it seeks is intended "to serve the interests of four companies who did not even participate in the 3GPP standard process."[148] In arguing that the Petition is intended to serve the interests of the members of the Alliance, Verizon implies that benefits extending beyond the services provided by the Alliance members would not be derived from a grant of the Petition.

There is no merit to such an implication. As the record reflects, numerous public interest benefits (*e.g.*, public safety use of full-spectrum mobile devices, roaming, enhanced competition, deployment of 4G services in rural and unserved areas) would flow from a grant of the Petition. In addition, as the comments reflect, Lower A Block licensees (and other parties), well beyond the carriers comprising the Alliance, are concerned about the restrictive band classes and equipment arrangements and are supporting the Alliance's Petition. As noted above, supporting comments were filed by twelve parties (not including the comments filed by Cellular South), whose total membership includes many more carriers.

With respect to the decision by the Alliance's members not to participate in the 3GPP standard-setting process, the Alliance agrees with RCA that this has no relevance to the Commission's evaluation of the merits of the Alliance's Petition.[149] Given the competitive and other

[147] *Id*. at 5.

[148] Verizon Comments at 13.

[149] *See* RCA Comments at 12.

harms that are threatened by the standards produced by the 3GPP process, the issue is whether the band classes established by these standards reflect the only viable and sufficient technical solution.

Band Class Restrictions.—Verizon contends that the Alliance's Petition erroneously implies that the 3GPP standards have "locked its members out of the [mobile device] development process."[150] Verizon argues that the band classes are not restrictive, and the band class configurations enable "[e]ach provider deploying LTE [to] determine which of the classes or combinations of classes is best suited to meet its authorized spectrum requirements and business plans."[151]

Verizon's assessment of how the band class and equipment development processes work makes sense only from the perspective of a carrier holding 52 percent of all the paired spectrum in the 700 MHz Band. As the Alliance and the record have made clear, equipment development options for small rural and regional carriers are sharply circumscribed by the 700 MHz band classes and by the fact that these carriers are not in a position to make deals with equipment manufacturers for bulk purchases of mobile devices that will work in Band Class 12.[152]

Selection of Other Air Interfaces.—Verizon suggests that the relief sought by the Alliance does not account for the possibility that some 700 MHz licensees could select air interfaces other than LTE for their networks. If other air interfaces were selected, and if the Commission granted the Alliance's Petition, then devices would be required to use both LTE and the other air interfaces. Because of the technical complications that Verizon claims would arise, Verizon argues that "[t]his problem is reason alone not to take up the Petition."[153]

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[150] Verizon Comments at 4.

[151] *Id*.

[152] *See, e.g.*, Petition at 2; USCC Comments at 6-7.

[153] Verizon Comments at 10. Verizon mentions WiMAX as an example of another technology that could be chosen for 700 MHz spectrum. *Id*. at 9-10.

Given the selection of LTE by the Big Two, the prospect of other air interfaces being selected for the 700 MHz Band is not likely. In addition, the deployment of WiMAX in the 700 MHz Band, for example, would face challenges, such as "the high capacity required by the large cells characterizing the 700 MHz deployment," the large antenna arrays that could be necessary (depending on the capacity enhancement techniques used by a carrier deploying WiMAX), and "the small spectrum slices assigned to operators in this band."[154] In any event, it would make more sense for the Commission to examine this issue raised by Verizon in a rulemaking, as opposed to concluding that Verizon's speculative concerns are a basis for dismissing the Petition.

FLO TV Devices.—Qualcomm contends that the Petition would "outlaw" dedicated personal television devices designed to work with Qualcomm's FLO TV service, "since the devices are 700 MHz mobile equipment, but they are nominally capable of operating only on one frequency block in the 700 MHz band and not on any of the paired commercial 700 MHz frequency blocks."[155] Qualcomm completely miscomprehends the Petition. It applies only to equipment that is designed to work on paired commercial spectrum.[156] If a mobile device, such as Qualcomm's FLO TV device, is not designed to work on any paired spectrum, then the Alliance does not intend that the relief it is seeking should be applicable to such device.

C. There Are No Legal or Procedural Impediments to the Commission's Initiating a Rulemaking and Taking the Actions Sought by the Alliance.

The third prong of the opponents' attack on the Alliance's Petition involves various legal and procedural claims, none of which merit consideration by the Commission. The Alliance

[154] Pallasium, "Overcoming the Challenges of WiMAX Deployment in 700 MHz Band," (undated) at 1, accessed at http://www.pallasium.com/_media/userfiles/articles/pdf/13.pdf.

[155] Qualcomm Comments at 3; *see id*. at 7.

[156] *See* Petition at 1 (petitioning for a rulemaking "to assure that consumers will have access to all paired 700 MHz spectrum that the Commission licenses, . . . and to . . . prohibit restrictive equipment arrangements that are contrary to the public interest").

shows in the following sections that, contrary to the opponents' claims, there is precedent for the relief the Alliance is requesting, the Act provides the Commission with jurisdiction and authority to take the actions sought by the Alliance, and a grant of relief by the Commission would not constitute "arbitrary and capricious" decisionmaking by the agency.

1. The Commission's Cellular Compatibility Rule Provides Strong Precedent for the Actions Sought by the Alliance in Its Petition.

Parties opposing the Petition raise several arguments purporting to indicate that the *Cellular Communications Systems Order*[157] has no application to the problems identified by the Alliance in the 700 MHz Band.[158] These arguments miss the point: In its 1981 decision, the Commission decided that action was necessary to ensure a competitive market structure and to serve the interests of consumers.[159] The Commission also determined that, "[w]ith respect to mobile stations, all units must be capable of operating at least over the entire 40 MHz of spectrum . . . . This is necessary in order to insure full coverage in all markets and compatibility on a nationwide basis."[160] The Commission faces the same issues here: Ensuring compatibility throughout the 700 MHz Band will benefit consumers and competition.

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[157] *An Inquiry into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems*, CC Docket No. 79-318, Report and Order, 86 FCC 2d 469 (1981) ("*Cellular Communications Systems Order*").

[158] *See* AT&T Comments at 13-14; Verizon Comments at 19-21.

[159] *See, e.g.*, *Cellular Communications Systems Order*, 86 FCC 2d at 478 (para. 19) (noting that "it is our view that even the introduction of a marginal amount of facilities-based competition into the cellular market will foster important public benefits of diversity of technology, service and price, which should not be sacrificed absent some compelling reason"). In opting to promote competitive cellular markets, the Commission fended off proposals that would have led to a different result. For example, Motorola proposed that the Commission should establish one 20 MHz cellular system per market. *Id*. at 475 (para. 14). The Commission rejected this approach, finding that Motorola's proposal "not only would eliminate the opportunity for facilities-based competition, but is unsupported by any convincing evidence that one 20 MHz system could reasonably meet the demands for cellular service." *Id*. at 478 (para. 19).

[160] *Id*. at 482 (para. 26).

The opponents of the Petition could not deny the existence of the Commission's prior actions. So they were reduced to attempting to distinguish the *Cellular Communications Systems Order* from the problems that the Alliance has identified in the 700 MHz Band. For example, Verizon suggests that, unlike the circumstances in the 700 MHz Band, spectrum in the cellular band for mobile transmit and for base transmit is contiguous, so there is no need for multiple duplexers.[161] Verizon also argues that, because all of the Cellular A Band and B Band are not contiguous, it made sense to design handsets that covered both the A Band and the B Band.[162]

The thrust of Verizon's argument seems to be that the Commission should pay no attention to the underlying policy goals that drove its actions in the *Cellular Communications Systems Order* (*i.e.*, the introduction of competition, with its benefits to consumers) because these goals were easier to accomplish in the cellular spectrum than they might be in the 700 MHz Band. Yet, the Commission cannot disregard competition simply because giving it a chance is not easy.

The Alliance and numerous commenters have illustrated that the Commission's policies—designed to promote competition, entry and investment by small rural and regional carriers, roaming for public safety users, and access to 4G broadband for rural consumers—are in jeopardy in the 700 MHz Band because of the market dominance of the Big Two and the resulting band class structure and equipment production plans that favor the business strategies of the large carriers. The fact that technical issues between the cellular band and the 700 MHz Band may differ is not a basis for the Commission's not following the competitive and consumer protection policies that were the hallmark of the *Cellular Communications Systems Order*. This is

[161] Verizon Comments at 19.

[162] *Id*. at 19-20.

especially true given the fact that, as the record has demonstrated and as the Alliance has explained,[163] the 700 MHz technical issues are not insurmountable.

The Alliance agrees with RTG that there is a strong link between the issues the Commission faced in developing its cellular rules nearly thirty years ago, and the issues that are now presented in the 700 MHz Band. RTG points out that the *Cellular Communications Systems Order* reflected a commitment to ensure the commercial viability of cellular service providers by requiring universal roaming and the removal of artificial barriers such as restrictive mobile device arrangements.[164] The Alliance urges the Commission to heed RTG's conclusion:[165]

> As the country eagerly awaits the introduction of mobile 4G services, the bulk of which will be accessed using LTE on the 700 MHz bands, it seems counter-intuitive that our country would knowingly allow a "Tower of Babel" scenario to develop when what is desperately needed is a uniform air-interface technology combined with an unrestricted mobile device ecosystem.

Verizon argues that the *Cellular Communications Systems Order* is inapposite because, in 1981, the Commission did not need to address the treatment of multi-band mobile devices, since no bands other than the cellular band were being used. Now that multiple bands are in use, and there is a need for multi-band devices, Verizon argues that the Commission should continue to promote diversity in licensing and technologies, and avoid "going backwards to a regime relevant in 1981 would be a totally unjustified—and unjustifiable—shift in regulatory policy."[166]

Verizon seems to be contending that, now that much more spectrum is being used to provide services to consumers, the Commission should no longer follow a cornerstone of its spectrum policies that guided its licensing of cellular services—*i.e.*, the promotion of competition and

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[163] See Section III.B., *supra*.

[164] RTG Comments at 5-6.

[165] *Id*. at 6.

[166] Verizon Comments at 20; *see* AT&T Comments at 13.

the benefits it delivers. The Commission, however, has rejected such an approach by bringing forward the pro-competitive policies of the *Cellular Communications Systems Order* to the 700 MHz Band. The Commission has explained, for example, that its objectives in licensing the 700 MHz Band are "to promote economic opportunity and competition, as well as the dissemination of licenses to a wide variety of applicants, including small and rural providers."[167]

The Alliance believes that the Commission's analysis of the 700 MHz issues raised in the Petition should focus on two questions:

(1) Do developments in the 700 MHz Band marketplace indicate that the Commission's policies favoring competition and providing benefits to consumers are in jeopardy?

(2) If so, do technical issues in the 700 MHz Band restrict the Commission's ability to protect and promote its pro-competitive and pro-consumer policies?

In examining the latter question, the Commission should follow the *Cellular Communications Systems Order*, in which the Commission concluded that competition and its benefits "should not be sacrificed absent some *compelling reason* . . . ."[168] Here, there is no compelling reason to sacrifice competition. In fact, the need to give competition a chance to survive is far more critical today than it was in 1981. After all, in 1981 no one would have imagined that any two entities would dominate wireless as much as the Big Two do today.

Verizon's argument that technical complications somehow serve as a justification not to apply protections that the Commission has already developed is also extreme and unpersuasive for another reason: Effectively it rests on the tenuous theory that, despite countless improvements over the last thirty years, technology does not permit the industry to undertake the same type of action as it took successfully in 1981, when directed by the Commission to do so.

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[167] *700 MHz Second Report and Order*, 22 FCC Rcd at 15320-21 (para. 71) (footnote omitted).

[168] *Cellular Communications Systems Order*, 86 FCC 2d at 478 (para. 19) (emphasis added).

Another reason the Commission should not accept Verizon's argument against the applicability of the *Cellular Communications Systems Order*, is that the Alliance, in asking the Commission to follow that Order, is not seeking a quantum shift in the Commission's regulatory requirements. The Alliance is addressing what is, at bottom, a simple—although very serious—problem: The marketplace is on the brink of producing results in the 700 MHz Band that would undermine entirely the Commission's policies and the public interest. Corrective action is needed to prevent harms to competition, consumer interests, public safety, and efficient and effective use of 700 MHz spectrum.

The Alliance is not advocating that these solutions necessarily should serve as a paradigm for the future course of Commission regulation, since the problems that have emerged in the 700 MHz Band may turn out to be unique to that band. The Alliance is arguing that the Lower A Block presents a specific problem that warrants Commission action, and that this action should be guided by the Commission's pro-competitive and pro-consumer policies.

Verizon also contends that the consistency standards that the Commission used to promote cellular service are not appropriate or necessary for mobile broadband networks "because there are now dozens of established mobile equipment manufacturers and other mobile-service-related industries for planning and deploying a mobile network."[169]

The number of mobile equipment manufacturers and other related industries in the market has little relevance to the issues raised in the Petition. Several commenters agree with the Alliance's concern that market dominance has led to band classes and mobile device procurement decisions that are threatening to orphan the Lower A Block spectrum. Small rural and regional Lower A Block licensees are not in a position to obtain mobile devices in bulk, and thus cannot

[169] Verizon Comments at 20.

make affordable mobile devices available to their customers. The advisability of using consistent standards to address these 700 MHz Band problems should not turn on the fact that there are more equipment manufacturers players in the marketplace than there were thirty years ago.

Finally, Verizon argues that the Commission's 700 MHz rules give successful bidders flexibility to develop mobile devices in ways that advance their business plans, prompting Verizon to conclude that, "[f]or the FCC more than two years later to take up whether to impose severely-limiting restrictions on the equipment deployed using the spectrum purchased in Auction 73 would constitute a substantial and significant reversal of the Commission's rules for that auction and undercut bidders' reliance on those rules . . . ."[170]

Verizon's formulation is fundamentally flawed. To be blunt: The fact that a train wreck could not be foreseen two years ago, is not a rationale for arguing that the Commission should stand by and watch the train wreck happen now. *The USF Interim Cap Order* again provides a useful analogy. In the years before adoption of that Order, wireless carriers that were successful in receiving ETC designations from state public utility commissions[171] typically were required to make commitments to the state commissions regarding the deployment of facilities and the provision of service in areas covered by their ETC designations. These commitments were based upon the receipt of high-cost support disbursed pursuant to the Commission's rules.

As the Alliance has discussed, the Commission in 2008 adopted a major, interim change in its rules (which is still in effect) by capping high-cost disbursements to wireless ETCs. The Commission took this action based on its conclusion that growth in the high-cost fund was threatening the viability of the USF, and notwithstanding the fact that the wireless cap would

[170] *Id*. at 21.

[171] In most cases, state public utility commissions are authorized by the Act to designate ETCs. *See* 47 U.S.C. § 214(e).

make it extremely difficult for many wireless carriers to adhere to the build-out commitments they had made to state commissions. The Commission decided that the risks to the sustainability of USF that it perceived required action and outweighed any need to take into account wireless ETCs' reliance on the existing, uncapped funding mechanism.

The issue for the Commission here is whether the Alliance and commenters supporting its position have shown that inaction by the Commission will have consequences that are inimical to the Commission's policies and the public interest. If so, then the Commission should act. The Alliance believes that the Petition and commenters have made this case, and that, therefore, action is necessary even if it disturbs the expectations of the Big Two.

2. The Commission Has Authority under the Communications Act of 1934 To Grant the Relief Sought by the Alliance.

Verizon claims that the Commission does not have sufficient jurisdiction and authority to initiate a rulemaking and grant the relief requested in the Petition. The Alliance explains in the following sections that this claim has no merit.

a. Verizon Misconstrues the Applicability of Section 1 of the Act to the Relief Requested by the Alliance.

The Alliance properly referenced Section 1 of the Act[172] as one source of Commission authority.[173] But Verizon claims that, although Section 1 empowers the Commission to promote the accessibility and universality of transmission, the relief sought by the Alliance would actually impede the deployment of mobile devices for 4G services using 700 MHz spectrum. Verizon also argues that, since Section 1 does not give the Commission plenary authority to regulate handsets, Section 1 cannot serve as a statutory basis for the relief sought by the Alliance.[174] Verizon

[172] 47 U.S.C. § 151.

[173] Petition at 1.

[174] Verizon Comments at 17-18.

concludes that, "where accessibility of transmission is *not* at issue, which is the case here, the Commission must rely upon some other, more specific grant of statutory authority to sustain handset regulation."[175]

Verizon's argument against Commission authority fails on every front. First, its claim that the relief requested would by contrary to Commission policy has nothing to do with jurisdiction or authority. Second, to listen to Verizon is to be told that the Commission, which has been regulating handsets since before the advent of cellular service, has no authority to do that. Third, it ignores the fact that the accessibility and universality of transmission *are* issues in this case.

If the Commission does not act to require 700 MHz licensees to use all-spectrum mobile devices, then (as the Alliance and commenters have explained) there is a substantial risk that customers of Lower A Block licensees will not have access to 4G services, or that the availability of these services will be delayed. In addition, 700 MHz roaming will not be available in the 700 MHz Band if the current band class configurations and equipment restrictions are allowed to remain in place. The absence of roaming capabilities will adversely affect the accessibility and universality of transmission. Thus, given that the accessibility and universality of transmission *are* at issue in this case, then, by Verizon's own argument, Section 1 provides a sufficient statutory basis for the Commission's authority.

At a minimum, in light of the recent decision by the District of Columbia Court of Appeals in the *Comcast* case,[176] Section 1 can be combined by the Commission with other "express delegations of authority"[177] to enable the Commission to exercise ancillary jurisdiction over issues that are reasonably related to the policies stated in Section 1.

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[175] *Id*. at 19 (emphasis in original).

[176] *Comcast v. FCC*, No. 08-1291 (D.C. Cir. Apr. 6, 2010) ("*Comcast*").

[177] *Id*., slip op. at 19.

b. The Commission Has Rulemaking Authority under Title II of the Act To Regulate Contracts Between the Big Two and Equipment Manufacturers.

The Alliance pointed out in its Petition that the restrictive equipment arrangements being adopted by the Big Two amount to discriminatory and anti-competitive conduct in violation of Sections 201(b) and 202(a) of the Act.[178] In effect, Verizon argues, incredibly, that such issues are beyond the Commission's jurisdiction. Specifically, Verizon argues that Sections 201 and 202 only apply to the relationship between a common carrier and its customers, and do not authorize the Commission "to require carriers to order (or manufacturers to build) mobile equipment with specific frequency capabilities."[179]

There is no basis for Verizon's narrow interpretation of Sections 201 and 202. The practices of carriers for and in connection with the communications services they offer through the use of 700 MHz spectrum are subject to the Commission's jurisdiction under Title II of the Act.[180] Given that Sections 201 and 202 apply to the Big Two (as well as to all carriers providing services using 700 MHz spectrum), the issue is whether the Commission has rulemaking authority to regulate contractual arrangements between the Big Two and equipment manufacturers.

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[178] 47 U.S.C. §§ 201(b), 202(a). *See* Petition at 7-8.

[179] Verizon Comments at 18.

[180] *See* 47 U.S.C. §§ 201(b), 202(a). Section 201(b) applies to "[a]ll charges, *practices*, classifications, and regulations *for and in connection with* . . . communications service . . . ." 47 U.S.C. § 201(b) (emphasis added). Section 202(a) applies to "charges, *practices*, classifications, regulations, facilities, or services *for or in connection with* like communications service . . . ." 47 U.S.C. § 202(a) (emphasis added). Carriers providing 700 MHz communications services are treated as commercial mobile radio service ("CMRS") providers, and all CMRS carriers are subject to Title II. *See* 47 U.S.C. § 332(c)(1)(A); *Orloff v. FCC*, 352 F.3d 415, 419 (D.C. Cir. 2003) (cited in Reply Comments of USCC, *Rural Cellular Ass'n Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers*, RM-11497, filed Feb. 20, 2009, at 26 n.77). The discussion in this section regarding the applicability of Sections 201 and 202 of the Act is adapted from the discussion in the USCC Reply Comments. *See id*. at 25-36.

Title II of the Act clearly applies to carrier contracts, and therefore the Commission's rulemaking authority extends to carrier practices in connection with their 700 MHz services, including their contract practices. This view is based on the following considerations.

First, Section 211(b) of the Act[181] gives the Commission authority to require the filing of the contracts of any carrier.[182] This authority is in addition to the Commission's authority in Section 211(a) of the Act, which requires every subject carrier to file with the Commission its contracts with other carriers, whether subject to the Act or not, relating to any communications service traffic affected by the provisions of the Act.[183] Section 211(b) thus gives the Commission authority to require the Big Two to file with the Commission their contracts with equipment manufacturers for the production of equipment.

Second, the *Sierra-Mobile* doctrine provides the Commission with authority to modify the terms of contracts that carriers may be required to file with the Commission pursuant to Section 211(b).[184] The courts have held that "it is well-established that 'the Commission has the power . . . to modify . . . provisions of private contracts when necessary to serve the public.'"[185] Thus, Section 211(b) provides the Commission with authority to regulate contracts for the production of 700 MHz mobile devices.

[181] 47 U.S.C. § 211(b).

[182] *Id.*

[183] 47 U.S.C. § 211(a). The Commission has forborne from applying Section 211(a) to CMRS carriers, but it has *not* forborne from applying Section 211(b) to such carriers.

[184] *See Federal Power Comm'n v. Sierra Pacific Power Co.,* 350 U.S. 348, 353-55 (1956); *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332, 344 (1956).

[185] *Cable & Wireless P.L.C. v. FCC,* 166 F.3d 1224, 1231 (D.C. Cir. 1999) (quoting *Western Union Telegraph Co. v. FCC,* 815 F.2d 1495, 1501 (D.C. Cir. 1987)).

Third, Section 215 of the Act[186] gives the Commission the obligation to examine "transactions entered into by any common carrier which relate to the furnishing of equipment . . . to such carrier and/or which may affect the charges made or to be made and/or the services rendered or to be rendered by such carrier."[187] The Commission has not forborne from applying its authority under Section 215 to CMRS providers,[188] deciding that the exercise of its authority to examine the activities and transactions of CMRS carriers "may be necessary for the protection of consumers if some market failure occurs" and there was no public interest reason to limit its ability "to act if the need arises."[189]

Fourth, because Sections 211 and 215 apply to carrier contracts, and because the Commission's rulemaking authority applies to wireless carriers' practices in connection with their provision of service, this rulemaking authority extends to the contract practices of the Big Two. The Commission has held that it has authority under Section 201(b) "to regulate the contractual or other arrangements between common carriers and other entities, even those entities that are generally not subject to Commission regulation."[190] Thus, the Commission may assert its Section 201(b) jurisdiction to regulate contracts between wireless carriers and handset manufacturers even though the manufacturers are not subject to regulation under the Act.

Fifth, a wireless carrier's entering into a contract with an equipment manufacturer that restricts the frequency blocks in the 700 MHz Band in which a mobile device will be capable of

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[186] 47 U.S.C. § 215.

[187] 47 U.S.C. § 215(a).

[188] *See Implementation of Sections 3(n) and 332 of the Communications Act,* GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1484 (para. 193) (1994) ("*CMRS Forbearance Order*").

[189] *Id*. The courts have held that the Commission may exercise its rulemaking authority to enforce the provisions of Section 215. *See GTE Service Corp. v. FCC,* 474 F.2d 724, 731 n.9 (2d Cir. 1972).

[190] *Promotion of Competitive Networks in Local Telecommunications Markets,* WT Docket No. 99-217, Report and Order, 23 FCC Rcd 5385, 5391 (para. 14) (2008).

operating, can be an unreasonable "practice" by that carrier, for and in connection with its communications services, in violation of Section 201(b). For example, the Commission has held that an exclusive contract for telecommunications service in a multiple tenant environment "impedes the pro-competitive purposes of the 1996 Act," and thus "a carrier's agreement to such a contract is an unreasonable practice" under Section 201(b).[191]

Thus, if the Commission determines that the contracts between the Big Two and equipment manufacturers for 700 MHz mobile devices would harm the public interest—because mobile devices restricted to operation in a single frequency block would undercut the Commission's broadband and public safety policies, would harm consumers, and would stifle competition—then the Commission may assert its Section 201(b) jurisdiction to regulate these contracts even though the manufacturers are not subject to the Act.

Finally, the Commission has authority to prevent contracts between the Big Two and equipment manufacturers from violating the prohibitions contained in Section 202(a) of the Act. Section 202(a) bars any "unjust or unreasonable discrimination" in "practices" by "any means or device . . . ."[192] Because a contract is considered a "device" for purposes of Section 202(a),[193] the Commission has the authority under Section 201(b) to regulate carrier contract practices in order to prevent wireless carriers from subjecting "any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage."[194]

Thus, the Commission has jurisdiction under Section 201(b) to adopt rules to prevent carriers from entering into contracts that are discriminatory within the meaning of Section 1 or Sec-

[191] *Id*. *See* Petition at 7-8.

[192] 47 U.S.C. § 202(a).

[193] *See Midwestern Relay Co*., Docket No. 20801, Memorandum Opinion and Order, 69 FCC 2d 409 (1978); *Bell System Tariff Offerings*, Docket No. 19896, Decision, 46 FCC 2d 413, 432 (para. 38) (1974).

[194] 47 U.S.C. § 202(a). *See* Petition at 7-8.

tion 202(a), or both. In this case, the contracts between the Big Two and equipment manufacturers would be unreasonably discriminatory to the extent they interfere (without any technical or other reasonable justification for doing so) with the deployment of 4G services in rural and unserved areas.[195]

c. Other Provisions of the Act Also Provide a Basis for Commission Action.

Verizon is critical of the Alliance's invocation of Section 307(b) and Section 254(b)(3) as bases for the initiation of a rulemaking and the granting of relief.[196] Verizon's arguments neglect to account for the Commission's broad rulemaking authority pursuant to Section 201(b). The scope of this rulemaking authority permits the Commission to adopt rules to carry out the anti-discrimination provisions of Section 202(a) *and* to implement anti-discrimination principles codified elsewhere in the Act.[197]

For example, the Commission possesses the authority under Section 202(a) to adopt a rule that would prohibit any practice by wireless carriers that would subject any community (a

[195] The Commission also has jurisdiction under Sections 201(a) and 202(a) of the Act over "any charge, practice, classification or regulation" of a common carrier that affects "a subscriber's right to make beneficial use of his mobile telephone in interstate communications." *Radio Telephone Industries v. Mahaffey Message Relay*, 61 FCC 2d 212, 214 (1976). This provides a further basis for the Commission's authority to grant the relief sought by the Alliance, because the restrictive band classes and mobile device arrangements risk unreasonably precluding consumers from using their mobile devices across all paired, commercial frequency blocks in the 700 MHz Band.

[196] Verizon Comments at 18-19.

[197] The generality of the terms Congress employed in Section 202(a) "opens a rather large area for the free play of agency discretion." *Bell Atlantic Telephone Co. v. FCC*, 79 F.3d 1195, 1202 (D.C. Cir. 1996). The language of Section 202(a) "bristles with 'any'" and states the anti-discrimination prohibition in "flat and unqualified" terms. *American Trucking Ass'n, Inc. v. FCC,* 377 F.2d 121, 130 (D.C. Cir. 1966). By making it unlawful for "any" carrier to give "any" undue or unreasonable preference or advantage to "any" person by "any" means or device, Section 202(a) gives the Commission the authority to examine whether AT&T and Verizon can give themselves an undue or unreasonable competitive advantage by entering into contracts with 700 MHz mobile device manufacturers that restrict the use of the devices in the 700 MHz Band.

"locality"[198]) to an unreasonable disadvantage by denying it "a fair, efficient, and equitable distribution of radio service."[199] Similarly, Section 202(a) provides the Commission with rulemaking authority to prevent wireless carriers' practices that would unreasonably discriminate against "low-income consumers and those in rural, insular, and high cost areas"[200] in connection with their receipt of services "that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas."[201]

Finally, Verizon criticizes any reliance on Section 4(i) or Section 303(r) of the Act[202] as a basis for the relief sought by the Alliance because "these provisions merely grant rulemaking authority to the Commission to carry out the substantive provisions of the Act, and contain no substantive grant of authority themselves."[203] As the Alliance has explained in the preceding sections, there is a sufficient basis for the exercise of the Commission's authority apart from its invocation of Sections 4(i) and 303(r), since the Alliance has shown that the Commission's rulemaking authority pursuant to Section 201(b), coupled with the prohibitions against discrimination contained in Section 202(a) and the specific provisions relating to carrier contracts in Sections 211 and 215, provides an ample basis for Commission action.

Nonetheless, if the Commission were to disagree with the Alliance's Title II analysis, then Sections 4(i) and 303(r) provide a sufficient alternative source of authority for the initiation of a rulemaking and a grant of relief. The reason for this is that the Act—in Sections 211 and

[198] 47 U.S.C. § 202(a).

[199] 47 U.S.C. § 307(b).

[200] 47 U.S.C. § 254(b)(3).

[201] *Id.*

[202] 47 U.S.C. §§ 154(i), 303(r).

[203] Verizon Comments at 19.

215—does provide a "basis for substantive regulations."[204] As the Alliance has explained, Sections 211 and 215 provide the Commission with explicit, substantive regulatory authority over contracts between common carriers and equipment manufacturers. Sections 4(i) and 303(r) therefore can be used as a source of rulemaking authority to ensure compliance with the substantive requirements of Section 211 and 215.[205]

3. Commission Grant of the Alliance's Request Would Not Constitute "Arbitrary and Capricious" Decisionmaking and Thus Would Not Violate the Administrative Procedure Act.

Verizon invests considerable effort in an attempt to bootstrap its previous arguments regarding technical impediments to the development and production of all-spectrum 700 MHz mobile devices into a claim that grant of the relief sought by the Alliance would violate the APA.[206] Since Verizon's underlying arguments have no merit, its effort to construct an APA argument rests on an insufficient foundation.

Verizon first argues that the relief sought by the Alliance would undermine the Commission's plan for diverse 700 MHz spectrum blocks, and therefore would violate the APA because an agency may not "employ means that actually undercut its own purported goals."[207] Contrary to Verizon's assertion, granting the Petition would not undercut the Commission's goals for the use of 700 MHz spectrum. In fact, as explained in the Petition and in these Reply Comments, action by the Commission would preserve important goals of its 700 MHz rules, namely, that

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[204] *Id.*

[205] This view is consistent with the *Comcast* decision, which indicated that the Commission may exercise its ancillary jurisdiction under Section 4(i) of the Act if the Commission's action is "reasonably ancillary to the . . . effective performance of [the Commission's] statutorily mandated responsibilities." *Comcast*, slip op. at 3 (quoting *Am. Library Ass'n v. FCC*, 406 F.3d 689, 692 (D.C. Cir. 2005) (internal quotation marks omitted). In this case, use of the Commission's ancillary authority would relate to the performance of its responsibilities under Sections 202(a), 211, and 215 of the Act.

[206] *See* Verizon Comments at 21-28.

[207] *Id.* at 24 (quoting *Office of Communications of United Church of Christ* v. *FCC*, 779 F.2d 702, 707 (D.C. Cir. 1985)).

consumers in rural unserved and underserved areas should have ubiquitous and affordable access to 4G broadband, and that smaller carriers should be given incentives to invest in and deploy 4G facilities in rural and regional unserved areas.

Moreover, although Verizon is correct that the Commission's 700 MHz rules adopted a "flexible approach that contemplated different uses for different blocks[,]"[208] the Commission did not anticipate that this flexibility would lead to the current situation: The promulgation of band classes and the emergence of equipment procurement decisions that would be harmful to competition, consumer interests, and public safety communications needs. Action taken by the Commission now to avoid these harmful effects cannot be considered "irrational"[209] and thus in violation of the APA.

Verizon next maintains that adopting the 700 MHz interoperability rules sought by the Alliance would violate the APA because the Commission would be departing from its own precedent (*i.e.*, the application of "a light regulatory touch to the wireless industry"[210]) without a sufficient basis for doing so.[211] This argument would be more credible if Verizon were able to show that there is not a sufficient basis in this case for a departure from this light-handed regulatory approach. In fact, however, the Petition, numerous commenters, and these Reply Comments demonstrate that there is such a basis. The record establishes that the actions of the Big Two are threatening to harm competition, consumer interests, and public safety communications needs, and that the risk of this harm is sufficient to warrant intervention by the Commission.

[208] Verizon Comments at 24.

[209] *Id.*

[210] *Id.* at 25 n.54.

[211] *Id.* at 25.

In addition, as the Alliance has explained,[212] the Commission's grant of the Petition would not be devoid of any precedential basis. It would follow in the footsteps of the *Cellular Communications Systems Order*. The Commission today faces problems regarding the use of 700 MHz spectrum that are closely aligned with those it faced thirty years ago. The solutions it reached then still resonate now, and can serve as precedent for granting the Petition.

Finally, Verizon advances the argument that the action recommended by the Alliance would be capricious because it would be addressing a problem that does not exist.[213] Verizon rests this argument on its claim that "the Petition is entirely devoid of any evidence of a problem in need of agency intervention."[214]

Given that Verizon is a charter member of the Big Two, and has a considerable portion of the 81 percent of MHz-pops in the 700 MHz Band controlled by the Big Two, Verizon's unsupported assertion here is hardly surprising. Yet, whether Verizon's conclusory claims regarding the evidence are credible is, of course, the issue that must be decided by the Commission. If the Commission agrees with the Alliance and commenters supporting the Petition that there *is* a problem (as has been demonstrated at length in the record), and that intervention by the Commission *is* needed to address the problem (again, as the record demonstrates) then the *HBO* holding does not apply.

IV. CONCLUSION.

By the above, several matters are crystal clear. First, any opportunity for meaningful competition in the 700 MHz Band, and the associated benefits to consumers generally, public safely organizations, and rural consumers, hinges on the outcome of this proceeding. Second, the

[212] See the discussion in Section III.C.1., *supra*.

[213] Verizon Comments at 26 (citing *Home Box Office, Inc.* v. *FCC*, 567 F.2d 9, 36 (D.C. Cir. 1977) ("*HBO*")).

[214] *Id*. (footnote omitted).

root cause of the problem that the Alliance urges the Commission to address was thrust upon the industry by the sheer dominance of the Big Two and their determination to use it to their predatory advantage. Lastly, nothing that the Big Two (and their supporting vendors) has said in this proceeding in any way undermines the appropriateness of the relief requested by the Alliance.

For all these reasons, the Alliance urges the Commission to grant its Petition, initiate a rulemaking proceeding, and provide the relief sought by the Alliance.

Respectfully submitted,

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ATTACHMENT A

License Holdings of
AT&T and Verizon
in the Largest 700 MHz Markets

Top 20 Markets in the Lower A Block of the 700 MHz Band			
Rank	Licensee	Market name	2000 census
1	Cellco Partnership	New York-No. New Jer.-Long Isl	25,712,577
2	Cellco Partnership	Los Angeles-Riverside-Orange C	18,003,420
3	Cellco Partnership	Chicago-Gary-Kenosha, IL-IN-WI	10,328,854
4	Cellco Partnership	San Francisco-Oakland-San Jose	9,111,806
5	Cellco Partnership	Washington-Baltimore, DC-MD-VA	8,403,130
6	MetroPCS 700 MHz, LLC	Boston-Worcester-Lawrence-Lowe	7,954,554
7	Cellco Partnership	Dallas-Fort Worth, TX-AR-OK	7,645,530
8	Cellco Partnership	Philadelphia-Wilmington-Atl. C	7,309,792
9	Cellco Partnership	Detroit-Ann Arbor-Flint, MI	6,963,637
10	Cellco Partnership	Houston-Galveston-Brazoria, TX	5,632,853
11	Cellco Partnership	Miami-Fort Lauderdale, FL	5,602,222
12	Cellco Partnership	Atlanta, GA-AL-NC	5,471,412
13	Cellco Partnership	Cleveland-Akron, OH-PA	4,692,460
14	Cellco Partnership	Minneapolis-St. Paul, MN-WI-IA	4,498,286
15	Vulcan Spectrum LLC	Seattle-Tacoma-Bremerton, WA	4,135,291
16	Cellco Partnership	Denver-Boulder-Greeley, CO-KS-	3,984,105
17	Cellco Partnership	Orlando, FL	3,642,540
18	King Street Wireless, L.P.	St. Louis, MO-IL	3,558,651
19	Cox TMI Wireless, L.L.C.	Phoenix-Mesa, AZ-NM	3,407,197
20	Cellco Partnership	Indianapolis, IN-IL	3,066,469

Top 100 Markets in the Lower B Block of the 700 MHz Band			
Rank	Licensee	Market name	2000 census
1	AT&T Mobility Spectrum LLC	New York, NY-NJ/Nassau-Suffolk	16,134,166
2	Cellco Partnership	Los Angeles-Long Beach/Anaheim	15,620,448
3	Cellco Partnership	Chicago, IL	8,091,720
4	AT&T Mobility Spectrum LLC	Dallas-Fort Worth, TX	5,120,721
5	AT&T Mobility Spectrum LLC	Philadelphia, PA	5,036,646
6	AT&T Mobility Spectrum LLC	Detroit/Ann Arbor, MI	4,775,452
7	AT&T Mobility Spectrum LLC	Houston, TX	4,393,382
8	AT&T Mobility Spectrum LLC	Boston-Lowell-Brockton-Lawrenc	4,279,111
9	AT&T Mobility Spectrum LLC	Washington, DC-MD-VA	4,182,658
10	AT&T Mobility Spectrum LLC	San Francisco-Oakland, CA	4,123,740
11	Cellco Partnership	Miami-Fort Lauderdale-Hollywoo	3,876,380
12	AT&T Mobility Spectrum LLC	Atlanta, GA	3,751,674
13	AT&T Mobility Spectrum LLC	Phoenix, AZ	3,072,149
14	AT&T Mobility Spectrum LLC	Minneapolis-St. Paul, MN-WI	2,836,298
15	AT&T Mobility Spectrum LLC	San Diego, CA	2,813,833
16	AT&T Mobility Spectrum LLC	St. Louis, MO-IL	2,518,470
17	AT&T Mobility Spectrum LLC	Baltimore, MD	2,512,431
18	AT&T Mobility Spectrum LLC	Denver-Boulder, CO	2,405,327
19	AT&T Mobility Spectrum LLC	Seattle-Everett, WA	2,343,058
20	AT&T Mobility Spectrum LLC	Tampa-St. Petersburg, FL	2,265,195
21	AT&T Mobility Spectrum LLC	Pittsburgh, PA	2,035,968
22	AT&T Mobility Spectrum LLC	Cleveland, OH	1,863,479
23	AT&T Mobility Spectrum LLC	Portland, OR-WA	1,789,457
24	AT&T Mobility Spectrum LLC	San Jose, CA	1,682,585
25	AT&T Mobility Spectrum LLC	Sacramento, CA	1,640,558
26	AT&T Mobility Spectrum LLC	Kansas City, MO-KS	1,627,081
27	AT&T Mobility Spectrum LLC	San Antonio, TX	1,559,975
28	Cellco Partnership	Cincinnati, OH-KY-IN	1,553,843
29	AT&T Mobility Spectrum LLC	Milwaukee, WI	1,500,741
30	AT&T Mobility Spectrum LLC	Indianapolis, IN	1,474,128
31	AT&T Mobility Spectrum LLC	Orlando, FL	1,434,033
32	AT&T Mobility Spectrum LLC	Columbus, OH	1,394,666
33	AT&T Mobility Spectrum LLC	Las Vegas, NV	1,375,765
34	AT&T Mobility Spectrum LLC	Salt Lake City-Ogden, UT	1,374,649
35	AT&T Mobility Spectrum LLC	Nashville-Davidson, TN	1,231,311
36	AT&T Mobility Spectrum LLC	New Orleans, LA	1,198,637
37	AT&T Mobility Spectrum LLC	Buffalo, NY	1,170,111
38	AT&T Mobility Spectrum LLC	Austin, TX	1,159,836
39	AT&T Mobility Spectrum LLC	Hartford-New Britain-Bristol,	1,148,618
40	Cellco Partnership	West Palm Beach-Boca Raton, FL	1,131,184
41	AT&T Mobility Spectrum LLC	Jacksonville, FL	1,122,750
42	Cellco Partnership	Memphis, TN-AR-MS	1,106,808
43	Cellco Partnership	Greensboro-Winston-Salem-High	1,085,874
44	Cellco Partnership	Oklahoma City, OK	1,049,422

Rank	Licensee	Market name	2000 census
45	AT&T Mobility Spectrum LLC	Norfolk-Virginia Beach-Portsmo	1,041,276
46	Cellco Partnership	Rochester, NY	1,037,831
47	Cellco Partnership	Charlotte-Gastonia, NC	1,009,496
48	Cellco Partnership	Raleigh-Durham, NC	969,387
49	AT&T Mobility Spectrum LLC	Louisville, KY-IN	968,313
50	AT&T Mobility Spectrum LLC	Providence-Warwick-Pawtucket,	962,886
51	AT&T Mobility Spectrum LLC	Birmingham, AL	940,795
52	AT&T Mobility Spectrum LLC	Bridgeport-Stamford-Norwalk-Da	882,567
53	AT&T Mobility Spectrum LLC	Honolulu, HI	876,156
54	AT&T Mobility Spectrum LLC	Richmond, VA	865,941
55	AT&T Mobility Spectrum LLC	Dayton, OH	848,153
56	AT&T Mobility Spectrum LLC	Albany-Schenectady-Troy, NY	844,001
57	AT&T Mobility Spectrum LLC	Tucson, AZ	843,746
58	AT&T Mobility Spectrum LLC	Tulsa, OK	841,604
59	AT&T Mobility Spectrum LLC	New Haven-West Haven-Waterbury	824,008
60	AT&T Mobility Spectrum LLC	Grand Rapids, MI	812,649
61	AT&T Mobility Spectrum LLC	Toledo, OH-MI	805,133
62	AT&T Mobility Spectrum LLC	Fresno, CA	799,407
63	AT&T Mobility Spectrum LLC	Oxnard-Simi Valley-Ventura, CA	753,197
64	AT&T Mobility Spectrum LLC	Worchester-Fitchburg-Leominste	750,963
65	AT&T Mobility Spectrum LLC	New Brunswick-Perth Amboy-Sayr	750,162
66	AT&T Mobility Spectrum LLC	Greenville-Spartanburg, SC	744,164
67	AT&T Mobility Spectrum LLC	Allentown-Bethlehem-Easton, PA	740,395
68	AT&T Mobility Spectrum LLC	Tacoma, WA	700,820
69	AT&T Mobility Spectrum LLC	Akron, OH	694,960
70	AT&T Mobility Spectrum LLC	El Paso, TX	679,622
71	AT&T Mobility Spectrum LLC	Omaha, NE-IA	673,884
72	AT&T Mobility Spectrum LLC	Northeast Pennsylvania, PA	671,232
73	AT&T Mobility Spectrum LLC	Bakersfield, CA	661,645
74	AT&T Mobility Spectrum LLC	Wilmington, DE-NJ-MD	650,501
75	AT&T Mobility Spectrum LLC	Syracuse, NY	650,154
76	AT&T Mobility Spectrum LLC	Albuquerque, NM	646,586
77	AT&T Mobility Spectrum LLC	Gary-Hammond-East Chicago, IN	631,362
78	AT&T Mobility Spectrum LLC	Long Branch-Asbury Park, NJ	615,301
79	AT&T Mobility Spectrum LLC	Springfield-Chicopee-Holyoke,	608,479
80	AT&T Mobility Spectrum LLC	Baton Rouge, LA	602,894
81	AT&T Mobility Spectrum LLC	Little Rock-North Little Rock,	583,845
82	AT&T Mobility Spectrum LLC	Knoxville, TN	576,993
83	AT&T Mobility Spectrum LLC	McAllen-Edinburg-Mission, TX	569,463
84	AT&T Mobility Spectrum LLC	Stockton, CA	563,598
85	AT&T Mobility Spectrum LLC	Charleston-North Charleston, S	549,033
86	AT&T Mobility Spectrum LLC	Mobile, AL	540,258
87	AT&T Mobility Spectrum LLC	Colorado Springs, CO	537,484
88	AT&T Mobility Spectrum LLC	Columbia, SC	536,691
89	AT&T Mobility Spectrum LLC	New Bedford-Fall River, MA	534,678
90	AT&T Mobility Spectrum LLC	Vallejo-Fairfield-Napa, CA	518,821

Rank	Licensee	Market name	2000 census
91	AT&T Mobility Spectrum LLC	Florida 4 - Citrus	512,760
92	AT&T Mobility Spectrum LLC	Wichita, KS	512,351
93	BTA Ventures II, Inc.	New Jersey 2 - Ocean	510,916
94	AT&T Mobility Spectrum LLC	Lansing-East Lansing, MI	509,246
95	AT&T Mobility Spectrum LLC	Harrisburg, PA	509,074
96	AT&T Mobility Spectrum LLC	Flint, MI	507,828
97	AT&T Mobility Spectrum LLC	Newport News-Hampton, VA	489,330
98	AT&T Mobility Spectrum LLC	Lakeland-Winter Haven, FL	483,924
99	Cellco Partnership	Youngstown-Warren, OH	482,671
100	AT&T Mobility Spectrum LLC	Johnson City-Kingsport-Bristol	480,091

Top 100 Markets in the Lower C Block of the 700 MHz Band			
Rank	Licensee	Market name	2000 census
1	AT&T Mobility II LLC	New York, NY-NJ/Nassau-Suffolk	16,134,166
2	AT&T Mobility II LLC	Los Angeles-Long Beach/Anaheim	15,620,448
3	AT&T Mobility II LLC	Chicago, IL	8,091,720
4	AT&T Mobility II LLC	Dallas-Fort Worth, TX	5,120,721
5	AT&T Mobility II LLC	Philadelphia, PA	5,036,646
6	AT&T Mobility II LLC	Detroit/Ann Arbor, MI	4,775,452
7	AT&T Mobility II LLC	Houston, TX	4,393,382
8	AT&T Mobility II LLC	Boston-Lowell-Brockton-Lawrenc	4,279,111
9	AT&T Mobility II LLC	Washington, DC-MD-VA	4,182,658
10	AT&T Mobility II LLC	San Francisco-Oakland, CA	4,123,740
11	AT&T Mobility II LLC	Miami-Fort Lauderdale-Hollywoo	3,876,380
12	AT&T Mobility II LLC	Atlanta, GA	3,751,674
13	AT&T Mobility II LLC	Phoenix, AZ	3,072,149
14	Redwood Wireless Corp.	Minneapolis-St. Paul, MN-WI	2,836,298
15	AT&T Mobility II LLC	San Diego, CA	2,813,833
16	AT&T Mobility II LLC	St. Louis, MO-IL	2,518,470
17	AT&T Mobility II LLC	Baltimore, MD	2,512,431
18	AT&T Mobility II LLC	Denver-Boulder, CO	2,405,327
19	AT&T Mobility II, LLC	Seattle-Everett, WA	2,343,058
20	AT&T Mobility II LLC	Tampa-St. Petersburg, FL	2,265,195
21	AT&T Mobility II LLC	San Juan-Caguas, PR	2,176,135
22	AT&T Mobility II LLC	Pittsburgh, PA	2,035,968
23	AT&T Mobility II LLC	Cleveland, OH	1,863,479
24	AT&T Mobility II, LLC	Portland, OR-WA	1,789,457
25	AT&T Mobility II LLC	San Jose, CA	1,682,585
26	AT&T Mobility II LLC	Sacramento, CA	1,640,558
27	AT&T Mobility II LLC	Kansas City, MO-KS	1,627,081
28	AT&T Mobility II LLC	San Antonio, TX	1,559,975
29	AT&T Mobility II LLC	Cincinnati, OH-KY-IN	1,553,843
30	Redwood Wireless Corp.	Milwaukee, WI	1,500,741
31	AT&T Mobility II LLC	Indianapolis, IN	1,474,128
32	AT&T Mobility II LLC	Orlando, FL	1,434,033
33	AT&T Mobility II LLC	Columbus, OH	1,394,666
34	AT&T Mobility II LLC	Las Vegas, NV	1,375,765
35	AT&T Mobility II LLC	Salt Lake City-Ogden, UT	1,374,649
36	AT&T Mobility II LLC	Nashville-Davidson, TN	1,231,311
37	AT&T Mobility II LLC	New Orleans, LA	1,198,637
38	AT&T Mobility II LLC	Buffalo, NY	1,170,111
39	AT&T Mobility II LLC	Austin, TX	1,159,836
40	AT&T Mobility II LLC	Hartford-New Britain-Bristol,	1,148,618
41	AT&T Mobility II LLC	West Palm Beach-Boca Raton, FL	1,131,184
42	AT&T Mobility II LLC	Jacksonville, FL	1,122,750
43	AT&T Mobility II LLC	Memphis, TN-AR-MS	1,106,808
44	AT&T Mobility II LLC	Greensboro-Winston-Salem-High	1,085,874

Rank	Licensee	Market name	2000 census
45	AT&T Mobility II LLC	Oklahoma City, OK	1,049,422
46	AT&T Mobility II LLC	Norfolk-Virginia Beach-Portsmo	1,041,276
47	AT&T Mobility II LLC	Rochester, NY	1,037,831
48	AT&T Mobility II LLC	Charlotte-Gastonia, NC	1,009,496
49	AT&T Mobility II LLC	Raleigh-Durham, NC	969,387
50	AT&T Mobility II LLC	Louisville, KY-IN	968,313
51	AT&T Mobility II LLC	Providence-Warwick-Pawtucket,	962,886
52	Cellular South Licenses, Inc.	Birmingham, AL	940,795
53	AT&T Mobility II LLC	Bridgeport-Stamford-Norwalk-Da	882,567
54	AT&T Mobility II LLC	Honolulu, HI	876,156
55	AT&T Mobility II LLC	Richmond, VA	865,941
56	AT&T Mobility II LLC	Dayton, OH	848,153
57	Vermont Telephone Company, Inc.	Albany-Schenectady-Troy, NY	844,001
58	AT&T Mobility II LLC	Tucson, AZ	843,746
59	AT&T Mobility II LLC	Tulsa, OK	841,604
60	AT&T Mobility II LLC	New Haven-West Haven-Waterbury	824,008
61	AT&T Mobility II LLC	Grand Rapids, MI	812,649
62	AT&T Mobility II LLC	Toledo, OH-MI	805,133
63	AT&T Mobility II LLC	Fresno, CA	799,407
64	AT&T Mobility II LLC	Oxnard-Simi Valley-Ventura, CA	753,197
65	Viacel Corporation	Worchester-Fitchburg-Leominste	750,963
66	AT&T Mobility II LLC	New Brunswick-Perth Amboy-Sayr	750,162
67	AT&T Mobility II LLC	Greenville-Spartanburg, SC	744,164
68	AT&T Mobility II LLC	Allentown-Bethlehem-Easton, PA	740,395
69	AT&T Mobility II, LLC	Tacoma, WA	700,820
70	AT&T Mobility II LLC	Akron, OH	694,960
71	AT&T Mobility II LLC	El Paso, TX	679,622
72	AT&T Mobility II LLC	Omaha, NE-IA	673,884
73	AT&T Mobility II LLC	Northeast Pennsylvania, PA	671,232
74	AT&T Mobility II LLC	Bakersfield, CA	661,645
75	AT&T Mobility II LLC	Wilmington, DE-NJ-MD	650,501
76	AT&T Mobility II LLC	Syracuse, NY	650,154
77	AT&T Mobility II LLC	Albuquerque, NM	646,586
78	AT&T Mobility II LLC	Gary-Hammond-East Chicago, IN	631,362
79	AT&T Mobility II LLC	Long Branch-Asbury Park, NJ	615,301
80	AT&T Mobility II LLC	Springfield-Chicopee-Holyoke,	608,479
81	AT&T Mobility II LLC	Baton Rouge, LA	602,894
82	AT&T Mobility II LLC	Little Rock-North Little Rock,	583,845
83	AT&T Mobility II LLC	Knoxville, TN	576,993
84	AT&T Mobility II LLC	McAllen-Edinburg-Mission, TX	569,463
85	AT&T Mobility II LLC	Stockton, CA	563,598
86	AT&T Mobility II LLC	Charleston-North Charleston, S	549,033
87	AT&T Mobility II LLC	Mobile, AL	540,258
88	AT&T Mobility II LLC	Colorado Springs, CO	537,484
89	AT&T Mobility II LLC	Columbia, SC	536,691
90	AT&T Mobility II LLC	New Bedford-Fall River, MA	534,678

Rank	Licensee	Market name	2000 census
91	AT&T Mobility II LLC	Vallejo-Fairfield-Napa, CA	518,821
92	AT&T Mobility II LLC	Florida 4 - Citrus	512,760
93	USCOC Nebraska/Kansas, LLC	Wichita, KS	512,351
94	AT&T Mobility II LLC	New Jersey 2 - Ocean	510,916
95	Agri-Valley Communications, Inc.	Lansing-East Lansing, MI	509,246
96	AT&T Mobility II LLC	Harrisburg, PA	509,074
97	AT&T Mobility II LLC	Flint, MI	507,828
98	AT&T Mobility II LLC	Newport News-Hampton, VA	489,330
99	AT&T Mobility II LLC	Lakeland-Winter Haven, FL	483,924
100	AT&T Mobility II LLC	Youngstown-Warren, OH	482,671

Active Licenses in the Upper C Block of the 700 MHz Band			
Rank	Licensee	Market name	2000 census
1	Cellco Partnership	Northeast	50,058,090
2	Cellco Partnership	Southeast	49,676,946
3	Cellco Partnership	Great Lakes	58,178,304
4	Cellco Partnership	Mississippi Valley	31,326,973
5	Cellco Partnership	Central	40,343,960
6	Cellco Partnership	West	49,999,164
7	Triad 700, LLC	Alaska	626,932
8	Cellco Partnership	Hawaii	1,211,537
9	Triad 700, LLC	Puerto Rico/U.S.Virgin Islands	3,917,222
10	Small Ventures USA, LP	Gulf of Mexico	-00